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(54) Title: **OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORS**

(57) Abstract: The present invention is related to an olfactory or pheromone G-protein coupled receptor having an amino acid sequence which presents 95% sequence identity with the sequence SEQ ID NO. 1.

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OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORSField of the invention

10 [0001] The present invention is related to newly identified, isolated and purified members of the family of olfactory ligand (odorant or any other molecule able to interact with said receptor) and the family of pheromone ligand G-protein-coupled (preferably human) receptors as  
15 well as to the various uses that can be made of said receptors.

[0002] The invention is also related to the polynucleotides sequences encoding said (preferably human) receptors.

20 [0003] The invention is further related to methods using receptor polypeptides and polynucleotides applicable to diagnostic and treatment in receptor-mediated disorders.

[0004] The invention is further related to ligand-screening methods using the receptor polypeptides and  
25 polynucleotides, to identify agonists and antagonists used as improved flavours or perfumes, as well as the prevention and/or treatment of various disorders.

[0005] The invention further encompasses agonists and antagonists based on the said olfactory and pheromones  
30 receptor polypeptides and polynucleotides and biosensors comprising said receptor polypeptides.

[0006] The invention is further related to procedures for producing the receptor polypeptides and



polynucleotides according to the invention, preferably by genetic recombinant methods.

#### Background of the invention

5 [0007] G-protein coupled receptors (GPCRs) are proteins responsible for transducing a signal within a cell. GPCRs have usually seven transmembrane domains. Upon binding of a ligand to an extra-cellular portion or  
10 fragment of a GPCR, a signal is transduced within the cell that results in a change in a biological or physiological property or behaviour of the cell. GPCRs, along with G-proteins and effectors (intracellular enzymes and membrane channels modulated by G-proteins), are the components of a modular signalling system that connects the state of intra-  
15 cellular second messengers to extra-cellular inputs.

[0008] GPCR genes and gene products are potential causative agents of disease and these receptors seem to be of critical importance to both the central nervous system and peripheral physiological processes.

20 [0009] The GPCR protein superfamily is represented in five families : Family I, receptors typified by rhodopsin and the beta2-adrenergic receptor and currently represented by over 200 unique members; Family II, the parathyroid hormone/calcitonin/secretin receptor family;  
25 Family III, the metabotropic glutamate receptor family, Family IV, the CAMP receptor family, important in the chemotaxis and development of *D. discoideum*; and Family V, the fungal mating pheromone receptor such as STE2.

[0010] G proteins represent a family of  
30 heterotrimeric proteins composed of  $\alpha$ ,  $\beta$  and  $\gamma$  subunits, that bind guanine nucleotides. These proteins are usually linked to cell surface receptors (receptors containing seven transmembrane domains).

[0011] Following ligand binding to the GPCR, a conformational change is transmitted to the G protein, which caused the  $\alpha$ -subunit to exchange a bound GDP molecule for a GTP molecule and to dissociate from the  $\beta\gamma$ -subunits.

5 [0012] The GTP-bound form of the  $\alpha$ ,  $\beta$  and  $\gamma$ -subunits typically functions as an effector-modulating moiety, leading to the production of second messengers, such as cAMP (e.g. by activation of adenylyl cyclase), diacylglycerol or inositol phosphates.

10 [0013] Greater than 20 different types of  $\alpha$ -subunits are known in humans. These subunits associate with a small pool of  $\beta$  and  $\gamma$  subunits. Examples of mammalian G proteins include Gi, Go, Gq, Gs and Gt. G proteins are described extensively in Lodish et al., *Molecular Cell*  
15 *Biology*, (Scientific American Books Inc., New York, N.Y., 1995), the contents of which are incorporated herein by reference.

[0014] Known and unknown GPCRs constitute now major targets for drug action and development.

20 [0015] More than 300 GPCRs have been cloned thus far and it is generally assumed that it exists well over 1000 such receptors. Mechanistically, approximately 50-60% of all clinically relevant drugs act by modulating the functions of various GPCRs (Cudermann et al., *J. Mol. Med.*,  
25 Vol. 73, pages 51-63, 1995).

#### Summary of the invention

[0016] The present invention is related to newly isolated and purified identified members of olfactory  
30 (odorant/ligand) and pheromones/ligands (SEQ ID NO. 1 to SEQ.ID NO. 548) and G-protein-coupled receptors as well as to polynucleotide sequences including recombinant sequences encoding said receptors, described hereafter.

[0017] The present invention is also related to non-described nucleotide and/or amino acid sequences homologous to the sequences corresponding to the receptors described hereafter.

5 [0018] Homologous sequences mean sequences which present a high sequence identity (which present an identity higher than 75%, 80%, 85%, 90% or 95%) with the complete sequence described hereafter.

[0019] Another aspect of the present invention is  
10 related to a specific active portion of said sequences or a libraries of said active portion (ligand binding) of these sequences. Said portions could be partial or deleted receptors which comprise modifications (punctual mutations) or deletions upon the complete nucleotide or amino acid  
15 sequences and which still maintain the active site(s) necessary for the binding of a specific ligand able to interact with said receptors.

[0020] Homologous sequences of the sequences according to the invention may comprise similar receptors  
20 which exist in other animal (vertebrates, preferably mammalian) or specific human populations, but which are involved in the same biochemical pathway.

[0021] Such homologous sequences may comprise addition, deletion or substitution of one or more amino  
25 acids or nucleotides, which does not substantially alter the functional characteristics of the receptor(s) according to the invention in order to form preferably an hybrid polypeptide with another transmembrane protein, suitable for rapid ligand screening.

30 [0022] Thus, the invention encompasses also a receptor and corresponding nucleotide sequence having exactly the same amino acid or nucleotide sequences (derived from olfactory neurons or olfactory epithelium) as shown in the enclosed sequence listing, as well as

molecules which differ, but which are not retaining the basic qualitative binding properties of the receptors according to the invention.

[0023] The invention is preferably related to said human receptors characterised by the complete nucleotide and amino acid sequences described hereafter, agonist and antagonist compounds or inhibitors, preferably antibodies or specific hypervariable portions thereof that bind specifically to said receptors (i.e. that have at least a 10 fold greater affinity for said receptors than any other naturally occurring antibody) and specifically antibodies made by a process involving the injection of a pharmaceutically acceptable preparation of such amino acid sequence into a animal capable of producing antibodies directed against said receptor.

[0024] For instance, a monoclonal antibody to the receptor according to the invention is obtained by injecting of an expression plasmid comprising the DNA encoding said receptor into a non human mammal and than fusing mouse spleen cells with myeloma cells.

[0025] The present invention is also related to the polynucleotide according to the invention, possibly linked to other expression sequences and incorporated into a vector and host cells transformed by such vector (plasmid, virus such as an adenovirus, liposomes, cationic vesicles,...).

[0026] The present invention is also related to the recombinant, preferably human receptor according to the invention, produced by such host cells according to the method well known by the person skilled in the art.

[0027] The present invention is also related to a transgenic non human mammal comprising a partial or total deletion of the genetic sequences encoding the receptor according to the invention, preferably a non human mammal

comprising an homologous recombination "knock-out" of the nucleotide sequences (polynucleotides) according to the invention or a transgenic non human mammal overexpressing above natural level said nucleotide sequences  
5 (polynucleotides).

[0028] Said transgenic non human mammal can be obtained by methods well known by the person skilled in the art, for instance by the one described in the document WO98/20112 using classical techniques based upon the  
10 transfection of embryonic stem cells, preferably according to the method described by Carmeliet et al., *Nature*, Vol. 380, p. 435-439, 1996.

[0029] Preferably, said transgenic non human mammal overexpressing the polynucleotides according to the  
15 invention or portions thereof comprises said polynucleotides or active portions thereof incorporated in a DNA construct with an inducible promoter allowing its overexpression and possibly tissues and other specific regulatory elements.

20 [0030] Another aspect of the present invention is related to a method for the screening (detection and possibly recovering) of (odorant, pheromones or inhibitor thereof) compounds which are known or not known to be agonists, antagonists or inhibitors of natural compounds to  
25 the receptor according to the invention, said method comprising :

- contacting a cell or cell extract from the cell transfected with a vector expressing the polynucleotides encoding the receptor(s) according to the invention or  
30 active portion(s) thereof,
- possibly isolating a membrane fraction from the cell extract or the complete cell with a natural compound binding to said receptor under conditions permitting binding of said compound to said receptor, possibly by

the activation of a functional response (resulting in a detectable signal) and

- detecting the presence of any such compound by means of a bioassay, preferably a modification in the production of a second messenger or an increase in the receptor activity in the presence of another molecule (or compound) working as an agonist, antagonist or inhibitor of a natural known compound to the receptor according to the invention and thereby possibly recovering and determining whether said molecule (or other compound) is able to work as an agonist, antagonist or inhibitor of the natural compound to its receptor, preferably the second messenger assay comprises the measurement of intra-cellular cAMP, intracellular inositol phosphates, intra-cellular diacylglycerol concentration, arachinoid acid concentration, MAP kinase(s) or tyrosine kinase(s) pathways or intra-cellular calcium mobilisation.

[0031] The present invention is related to said molecules or compounds, preferably pheromones or flavours, including possible toxic molecules identified by said screening (identification and recovering) method and to their pharmaceutical, cosmetical and industrial (production of detergents, soap, shampoo, fragrances, odorant fingerprints, appetite suppressant compounds, etc.) use.

[0032] Such molecules or compounds may be used also for obtaining in mammal a modification of its taste and its physiological reactions to odorant, pheromones or flavours.

[0033] The present invention is also related to a (preferably nasal) spray for controlling appetite comprising the identified compounds or molecules by the method according to the invention in a suitable carrier.

[0034] Another application of such receptor is the trapping of odour by using the receptor, the cell or membrane according to the invention wherein the desired

odour ligand is absorbed by the binding of the odorant ligand to the odorant receptor.

[0035] The present invention is further related to an odour trap, using said method for trapping odour.

5 [0036] Preferably, the tested odorants or pheromones upon the receptor according to the invention are advantageously selected from different body secretions such as sweat, salivary, urine, vaginal secretions, sperm, etc. The tested odorants or pheromones upon the receptor are  
10 also advantageously selected from the group of 16-androstene family, such as the 5 $\alpha$ -androst-16-en-3 $\alpha$ -ol, the 5 $\alpha$ -androst-16-en-3-one, androstadienone, a human pheromone described previously (Grosser et al.,  
15 *Psychoneuroendocrinology* vol. 25, pages 289-299, 2000) and other androstenol derivatives; the group consisting of estrene family, such as 1,3,5(10),16-estratetraen-3-ol and other estradiol derivatives described in PCT/US92/00219, PCT/US92/00220 and EP0562843 ; the group consisting of  
20 progestin family such as the human pheromone pregna-4,20-diene-3,6-dione (Monti-Bloch et al., *J. Steroid Biochem. Mol. Biol.* Vol. 65, pages 237-242) and other progesterone derivatives , the group consisting of small fatty acids such as acetic acid, propionic acid, butyric acid, isovaleric acid and isocaproic acid that compose the  
25 putative human vaginal pheromone copulin and such as the trans-3-methyl-2-hexanoic acid found in human sweat, cyclic organic compounds homologs to known animal pheromone such as dehydro-exo-brevicommin and such as nepetalactone, and human homologs of the murin protein aphrodisin.

30 [0037] Other examples of such compounds are molecules present in vapour emanating from narcotics, like cocaine, marihuana, heroin, hashish, angel dust, gasoline, natural gas, alcohol, decayed human flesh, explosives,

plastic explosives, fire arms, gun powder, toxic fumes, noxious fumes or dangerous fumes, etc.

[0038] Said molecules or compounds could be used also for promoting or suppressing chemical communication.

- 5 Every stimuli involving the emission by an organism or an exogenous source of chemical compounds able to modify the probability of response of another organism or a part of another organism.

[0039] These molecules or compounds could be used in  
10 the treatment or prevention of various disorders affecting, for instance, cell migration, cell death, cell growth, psychotic and neurological disorders, including anxiety, schizophrenia, maniac depression, depression or mound modification, etc.

15 [0040] These molecules or compounds could be used also for improving contraceptive medication, treatment promoting axonal growth, neural connection and nerves regeneration, in modulating male and female endocrine functions, or may effect the menstrual cycle. Indeed, it is  
20 known that several of said receptors can be present at the surface of spermatozoids and can then find contraceptive application or could be used in the treatment/prevention of sterility/fertility.. these receptors are also present in various neurofactory neurons and can improve their  
25 connection, especially upon the olfactory bulb or upon other tissue comprising said olfactory receptors.

[0041] They could be also used for the treatment or the prevention of various animal or human behaviours, such as stimulation and/or suppression of appetite,  
30 stimulation and/or suppression of motivation and sexual attraction, stimulation and/or suppression of aggressivity, stimulation and/or suppression of alarm and defence behaviours, stimulation and/or suppression of territory and



trail-marking, stimulation and/or suppression of social regulation and recognition, stimulation and/or suppression of mother-child recognition, etc.

[0042] The screening method according to the  
5 invention could be performed by well known methods to the person skilled in the art, preferably high-throughput screening, diagnostic and dosage devices based upon the method described in the International patent application WO00/02045 performed upon various solid supports such as  
10 micro-titer plates or biochips according to known techniques by the person skilled in the art.

[0043] The present invention is also related to the molecules characterized and possibly recovered by said method, including the pharmaceutical composition comprising  
15 a sufficient amount of said molecules and a pharmaceutically acceptable carrier or diluent for the preparation of a medicament in the prevention and/or the treatment of specific diseases.

[0044] A last aspect of the present invention is  
20 related to a biosensor or any technical device comprising the receptors according to the invention for the detection of the specific above-mentioned compounds or molecules.

CLAIMS

1. Pheromone G-protein coupled receptor having an amino acid sequence which presents 95% sequence identity with the SEQ ID NO. 1.
- 5 2. G-protein coupled receptor having the amino acid sequence SEQ ID NO. 1 or a specific active portion thereof.
3. Polynucleotide encoding any of the amino acid sequences of the G-protein coupled receptor according  
10 to claim 1 or 2.
4. Agonist, antagonist or inhibitor of the receptor or the polynucleotide according to any of the preceding claims.
5. Vector comprising the polynucleotide  
15 according to the claim 3.
6. Cell transformed by the vector according to the claim 5.
7. Non-human mammal comprising a partial or total deletion of the polynucleotide according to the  
20 claim 3 encoding the receptor according claim 1 or 2, preferably an non-human mammal comprising an homologous recombination "knock-out" of said polynucleotide or a transgenic non-human mammal overexpressing above natural level said polynucleotide.
- 25 8. Compound selected from the group consisting of agonist, antagonist or inhibitor of the receptor or the polynucleotide according to any of the claims 1 to 3.
9. Method for the screening (detection and  
30 possibly recovering) of compounds which are known or not known to be agonists, antagonists or inhibitors of natural compounds to the receptor according to claim 1 or 6, said method comprising :

- contacting a cell or cell extract from the cell transfected with a vector according to the claim 5,
- possibly isolating a membrane fraction from the cell extract or the complete cell with a natural compound binding to said receptor under conditions permitting binding of said compound to said receptor, possibly by the activation of a functional response, and
- detecting the presence of any such compound by means of a bioassay, preferably a modification in the production of a second messenger or an increase in the receptor activity in the presence of another molecule (or compound) working as an agonist, antagonist or inhibitor of a natural known compound to the receptor and thereby recovering and determining whether said molecule (or other compound) is able to work as an agonist, antagonist or inhibitor of the natural compound to its receptor.

10. Compound identified by the screening method according to the claim 9.

11. Pharmaceutical composition comprising an adequate pharmaceutical carrier and a sufficient amount of the receptor according to claim 1 or 2, the poly-nucleotide encoding said receptor according to the claim 3, the agonists, antagonists or inhibitors according to the claim 4 or the vectors according to the claim 5 or the cell according to the claim 6.

12. Use of the agonists, antagonists or inhibitors according to the claim 4 or the compound according to the claim 10 for the improvement, elimination or substitution of an existing taste and/or a fragrance of (or in) food and/or cosmetical products.

13. Use of the agonists, antagonists or inhibitors according to the claim 4 or the compound according to the claim 10 for the preparation of a

medicament in the treatment and/or the prevention of a disorder affecting a mammal, including a human, such as disorders in cell migration, sterility, psychotic and neurological disorders, including anxiety, schizophrenia, maniac depression, depression, for promoting axonal growth, nerve cell connection and nerve regeneration, for modulating male and female endocrine functions, hormone production and menstrual cycle, for the prevention or the treatment by stimulation of several mammal (including human) behaviours, such as stimulation or suppression of appetite, stimulation or suppression of sexual motivation and sexual attraction, stimulation or suppression of aggressivity and for promoting or suppressing chemical communication between organisms.

## SEQUENCE LISTING

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Veithen, Alex

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Asp Met Ile Ile Ser His Leu Ser Leu Ile His Ile Leu Leu Leu Phe
          85          90          95

act cag gca ata ttg gtg tcc tta gac ttc ttt ggt tca cag aat act      336
Thr Gln Ala Ile Leu Val Ser Leu Asp Phe Phe Gly Ser Gln Asn Thr
          100          105          110

cag gat gat ctt agg tat aag gtc att gtc ttt tta aac aag gtg atg      384
Gln Asp Asp Leu Arg Tyr Lys Val Ile Val Phe Leu Asn Lys Val Met
          115          120          125

agg ggc ctc tcc atc tgc acc ccc tgc ctc ctg agt gtg ctc cag gcc      432
Arg Gly Leu Ser Ile Cys Thr Pro Cys Leu Leu Ser Val Leu Gln Ala
          130          135          140

atc atc agc ccc agc atc ttc tcc ttg gca aag ctc aaa cat cct tct      480
Ile Ile Ser Pro Ser Ile Phe Ser Leu Ala Lys Leu Lys His Pro Ser
145          150          155          160

gca agt cac atc tta gga ttc ttc ctt ttc tca tgg gtc ctc aac atg      528
Ala Ser His Ile Leu Gly Phe Phe Leu Phe Ser Trp Val Leu Asn Met
          165          170          175

ttc att ggt gta atc ttc tgc tgt aca ctg cgg cta ccc cca gtg aaa      576
Phe Ile Gly Val Ile Phe Cys Cys Thr Leu Arg Leu Pro Pro Val Lys
          180          185          190

cgg ggc cag tct tct gtt tgt cat aca gca ctg ttc ctt ttt gcc cat      624
Arg Gly Gln Ser Ser Val Cys His Thr Ala Leu Phe Leu Phe Ala His
          195          200          205

gag cta cac cca cag gag act gtt ttt cac act aat gac ttt gag gga      672
Glu Leu His Pro Gln Glu Thr Val Phe His Thr Asn Asp Phe Glu Gly
          210          215          220

tgt cac ctt tat agg gtt cat ggt cct ctc aag agg cta cat ggt gat      720
Cys His Leu Tyr Arg Val His Gly Pro Leu Lys Arg Leu His Gly Asp
225          230          235          240

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tat ttt ata cag aca ata aga ggc tat ctc agt gcc ttc aca cag cca 768  
 Tyr Phe Ile Gln Thr Ile Arg Gly Tyr Leu Ser Ala Phe Thr Gln Pro  
 245 250 255

gcc tgt ccc cga gtc tca cca gtg aaa aga gcc tcc cag gct atc tta 816  
 Ala Cys Pro Arg Val Ser Pro Val Lys Arg Ala Ser Gln Ala Ile Leu  
 260 265 270

ctg ctg gtg agt ttt gtc ttc aca tac tgg gtg gac ttt acg ttc tca 864  
 Leu Leu Val Ser Phe Val Phe Thr Tyr Trp Val Asp Phe Thr Phe Ser  
 275 280 285

ttt tca gga ggt gtg aca tgg ata aat gat tct ctg cta gtg tgg ctc 912  
 Phe Ser Gly Gly Val Thr Trp Ile Asn Asp Ser Leu Leu Val Trp Leu  
 290 295 300

cag gtt att gtg gcc aat agc tat gcc gca att agt cct ttg atg cta 960  
 Gln Val Ile Val Ala Asn Ser Tyr Ala Ala Ile Ser Pro Leu Met Leu  
 305 310 315 320

att tat gct gat aac caa ata ttc aag act ctg caa atg tta tgg ttt 1008  
 Ile Tyr Ala Asp Asn Gln Ile Phe Lys Thr Leu Gln Met Leu Trp Phe  
 325 330 335

aaa tat ttg tct cct cca aag ctc atg ttg aaa ttt aat cgc caa tgt 1056  
 Lys Tyr Leu Ser Pro Pro Lys Leu Met Leu Lys Phe Asn Arg Gln Cys  
 340 345 350

ggc agt act aag aag tga 1074  
 Gly Ser Thr Lys Lys  
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<400> 4

Met Leu Lys Leu Val Ile Ile Glu Asn Met Ala Glu Ile Met Leu Phe  
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Ser Leu Asp Leu Leu Leu Phe Ser Thr Asp Ile Leu Cys Phe Asn Phe  
 20 25 30

Pro Ser Lys Met Ile Lys Leu Pro Gly Phe Ile Thr Ile Gln Ile Phe  
 35 40 45

Phe Tyr Pro Gln Ala Ser Phe Gly Ile Ser Ala Asn Thr Ile Leu Leu  
 50 55 60

Leu Tyr His Ile Phe Thr Phe Val Phe Ser His Arg Ser Lys Ser Ile  
 65 70 75 80

Asp Met Ile Ile Ser His Leu Ser Leu Ile His Ile Leu Leu Leu Phe

7

Lys Tyr Leu Ser Pro Pro Lys Leu Met Leu Lys Phe Asn Arg Gln Cys  
 340 345 350

Gly Ser Thr Lys Lys  
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 cca aat tcc agc ttt gct ttt gta aat gaa ttt ata ctc caa ggt ttc 96  
 Pro Asn Ser Ser Phe Ala Phe Val Asn Glu Phe Ile Leu Gln Gly Phe  
 20 25 30  
 tct tgt gag tgg aca att cag atc ttc ctc ttc tca ctc ttt act aca 144  
 Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe Ser Leu Phe Thr Thr  
 35 40 45  
 aca tat gca ctg act ata aca ggg aat gga gcc att gct ttt gtc ctg 192  
 Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala Ile Ala Phe Val Leu  
 50 55 60  
 tgg tgt gac cgg cga ctt cac act ccc atg tac atg ttc ctg gga aat 240  
 Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr Met Phe Leu Gly Asn  
 65 70 75 80  
 ttc tcc ttt tta gag ata tgg tat gtc tct tct aca gtt ccc aag atg 288  
 Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met  
 85 90 95  
 ttg gtc aac ttc ctt tca gag aaa aaa aac atc tcc ttt gct gga tgt 336  
 Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys  
 100 105 110  
 ttt ctc cag ttt tat ttc ttc ttc tct ttg ggt aca tca gaa tgc ttg 384  
 Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu  
 115 120 125  
 ctt ttg act gtg atg gcc ttt gat cag tac ctt gct atc tgc cgt ccc 432  
 Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro  
 130 135 140  
 ttg ctc tat cct aat atc atg act ggg cat ctc tat gcc aaa ctg gtc 480  
 Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val  
 145 150 155 160

ata ctg tgc tgg gtt tgt gga ttt ctg tgg ttc ctg atc ccc att gtt 528  
 Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val  
 165 170 175

ctc atc tct cag atg ccc ttc tgt ggc cca aac att att gac cat gtt 576  
 Leu Ile Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val  
 180 185 190

gtg tgt gac cca ggg cca cga ttt gca ttg gat tgt gtt tct gcc cca 624  
 Val Cys Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro  
 195 200 205

aga atc caa ctg ttt tgc tac act cta agc tca tta gtt att ttt ggt 672  
 Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly  
 210 215 220

aac ttc ctc ttt att att gga tcc tat act ctt gtc ctg aaa gct atg 720  
 Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met  
 225 230 235 240

ttg ggt atg cct tca agc act ggg aga cat aag gcc ttc tct acc tgt 768  
 Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys  
 245 250 255

ggg tct cat ttg gct gtg gta tca ctg tgc tat agc tct ctt atg gtc 816  
 Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val  
 260 265 270

atg tat gtg agc cca gga ctc gga cat tct aca ggg atg cag aaa att 864  
 Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile  
 275 280 285

gaa act ttg ttc tat gct atg gtg acc cca ctc ttc aat ccc ctt atc 912  
 Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro Leu Ile  
 290 295 300

tat agc ctc cag aat aag gag ata aag gca gcc ctg agg aaa gtt ctg 960  
 Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys Val Leu  
 305 310 315 320

ggg agt tcc aac ata atc taa 981  
 Gly Ser Ser Asn Ile Ile  
 325

<210> 6  
 <211> 326  
 <212> PRT  
 <213> Homo Sapiens

<400> 6

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Pro Asn Ser Ser Phe Ala Phe Val Asn Glu Phe Ile Leu Gln Gly Phe  
20 25 30

Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe Ser Leu Phe Thr Thr  
 35 40 45  
 Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala Ile Ala Phe Val Leu  
 50 55 60  
 Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr Met Phe Leu Gly Asn  
 65 70 75 80  
 Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met  
 85 90 95  
 Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys  
 100 105 110  
 Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu  
 115 120 125  
 Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro  
 130 135 140  
 Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val  
 145 150 155 160  
 Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val  
 165 170 175  
 Leu Ile Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val  
 180 185 190  
 Val Cys Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro  
 195 200 205  
 Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly  
 210 215 220  
 Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met  
 225 230 235 240  
 Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys  
 245 250 255  
 Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val  
 260 265 270  
 Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile

275	280	285	
Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro Leu Ile			
290	295	300	
Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys Val Leu			
305	310	315	320
Gly Ser Ser Asn Ile Ile			
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1	5	10	15
ggt ttc tcc agc ctg ggg gag ctc cag ctg ctg ctt ttt gtc atc ttt			96
Gly Phe Ser Ser Leu Gly Glu Leu Gln Leu Leu Leu Phe Val Ile Phe			
20	25	30	
ctt ctc cta tac ttg aca atc ctg gtg gcc aat gtg acc atc atg gcc			144
Leu Leu Leu Tyr Leu Thr Ile Leu Val Ala Asn Val Thr Ile Met Ala			
35	40	45	
gtt att cgc ttc agc tgg act ctc cac act ccc atg tat ggc ttt cta			192
Val Ile Arg Phe Ser Trp Thr Leu His Thr Pro Met Tyr Gly Phe Leu			
50	55	60	
ttc atc ctt tca ttt tct gag tcc tgc tac act ttt gtc atc atc cct			240
Phe Ile Leu Ser Phe Ser Glu Ser Cys Tyr Thr Phe Val Ile Ile Pro			
65	70	75	80
cag ctg ctg gtc cac ctg ctc tca gac acc aag acc atc tcc ttc atg			288
Gln Leu Leu Val His Leu Leu Ser Asp Thr Lys Thr Ile Ser Phe Met			
85	90	95	
gcc tgt gcc acc cag ctg ttc ttt ttc ctt ggc ttt gct tgc acc aac			336
Ala Cys Ala Thr Gln Leu Phe Phe Phe Leu Gly Phe Ala Cys Thr Asn			
100	105	110	
tgc ctc ctc att gct gtg atg gga tat gat cgc tat gta gca att tgt			384
Cys Leu Leu Ile Ala Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys			
115	120	125	
cac cct ctg agg tac aca ctc atc ata aac aaa agg ctg ggg ttg gag			432
His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly Leu Glu			

130	135	140	
ttg att tct ctc tca gga gcc aca ggt ttc ttt att gct ttg gtg gcc			480
Leu Ile Ser Leu Ser Gly Ala Thr Gly Phe Phe Ile Ala Leu Val Ala			
145	150	155	160
acc aac ctc att tgt gac atg cgt ttt tgt ggc ccc aac agg gtt aac			528
Thr Asn Leu Ile Cys Asp Met Arg Phe Cys Gly Pro Asn Arg Val Asn			
	165	170	175
cac tat ttc tgt gac atg gca cct gtt atc aag tta gcc tgc act gac			576
His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys Thr Asp			
	180	185	190
acc cat gtg aaa gag ctg gct tta ttt agc ctc agc atc ctg gta att			624
Thr His Val Lys Glu Leu Ala Leu Phe Ser Leu Ser Ile Leu Val Ile			
	195	200	205
atg gtg cct ttt ctg tta att ctc ata tcc tat ggc ttc ata gtt aac			672
Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile Val Asn			
	210	215	220
acc atc ctg aag atc ccc tca gct gag ggc aag aag gcc ttt gtc acc			720
Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Lys Lys Ala Phe Val Thr			
	225	230	235
tgt gcc tca cat ctc act gtg gtc ttt gtc cac tat ggc tgt gcc tct			768
Cys Ala Ser His Leu Thr Val Val Phe Val His Tyr Gly Cys Ala Ser			
	245	250	255
atc atc tat ctg cgg ccc aag tcc aag tct gcc tca gac aag gat cag			816
Ile Ile Tyr Leu Arg Pro Lys Ser Lys Ser Ala Ser Asp Lys Asp Gln			
	260	265	270
ttg gtg gca gtg acc tac aca gtg gtt act ccc tta ctt aat cct ctt			864
Leu Val Ala Val Thr Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Leu			
	275	280	285
gtc tac agt ctg agg aac aaa gag gta aaa act gca ttg aaa aga gtt			912
Val Tyr Ser Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Arg Val			
	290	295	300
ctt gga atg cct gtg gca acc aag atg agc taa			945
Leu Gly Met Pro Val Ala Thr Lys Met Ser			
305	310		

<210> 8  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 8

Met Arg Gly Phe Asn Lys Thr Thr Val Val Thr Gln Phe Ile Leu Val  
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Gly Phe Ser Ser Leu Gly Glu Leu Gln Leu Leu Leu Phe Val Ile Phe  
 20 25 30



Leu Leu Leu Tyr Leu Thr Ile Leu Val Ala Asn Val Thr Ile Met Ala  
 35 40 45

Val Ile Arg Phe Ser Trp Thr Leu His Thr Pro Met Tyr Gly Phe Leu  
 50 55 60

Phe Ile Leu Ser Phe Ser Glu Ser Cys Tyr Thr Phe Val Ile Ile Pro  
 65 70 75 80

Gln Leu Leu Val His Leu Leu Ser Asp Thr Lys Thr Ile Ser Phe Met  
 85 90 95

Ala Cys Ala Thr Gln Leu Phe Phe Phe Leu Gly Phe Ala Cys Thr Asn  
 100 105 110

Cys Leu Leu Ile Ala Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly Leu Glu  
 130 135 140

Leu Ile Ser Leu Ser Gly Ala Thr Gly Phe Phe Ile Ala Leu Val Ala  
 145 150 155 160

Thr Asn Leu Ile Cys Asp Met Arg Phe Cys Gly Pro Asn Arg Val Asn  
 165 170 175

His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys Thr Asp  
 180 185 190

Thr His Val Lys Glu Leu Ala Leu Phe Ser Leu Ser Ile Leu Val Ile  
 195 200 205

Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile Val Asn  
 210 215 220

Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Lys Lys Ala Phe Val Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Val Val Phe Val His Tyr Gly Cys Ala Ser  
 245 250 255

Ile Ile Tyr Leu Arg Pro Lys Ser Lys Ser Ala Ser Asp Lys Asp Gln  
 260 265 270

Leu Val Ala Val Thr Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Leu  
 275 280 285

Val Tyr Ser Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Arg Val  
 290 295 300

Leu Gly Met Pro Val Ala Thr Lys Met Ser  
 305 310

<210> 9  
 <211> 942  
 <212> DNA  
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<220>  
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 1 5 10 15  
 ttc tca gat cga cct tgg ctg gag ttt cca ctc ctt gtg gtc ttc ttg 96  
 Phe Ser Asp Arg Pro Trp Leu Glu Phe Pro Leu Leu Val Val Phe Leu  
 20 25 30  
 att tct tac act gtg acc atc ttt ggc aat ctg acc att att cta gtg 144  
 Ile Ser Tyr Thr Val Thr Ile Phe Gly Asn Leu Thr Ile Ile Leu Val  
 35 40 45  
 tca cgc ctg gac acc aaa ctt cat acc ccc atg tat ttt ttt ctt acc 192  
 Ser Arg Leu Asp Thr Lys Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
 50 55 60  
 aat cta tca ctc ctg gat ctt tgt tac acc aca tgt aca gtc cca caa 240  
 Asn Leu Ser Leu Leu Asp Leu Cys Tyr Thr Thr Cys Thr Val Pro Gln  
 65 70 75 80  
 atg cta gta aat tta tgc agc atc agg aaa gta atc agt tat cgt ggc 288  
 Met Leu Val Asn Leu Cys Ser Ile Arg Lys Val Ile Ser Tyr Arg Gly  
 85 90 95  
 tgt gta gcc cag ctt ttc ata ttt ctg gcc ttg ggg gct act gaa tat 336  
 Cys Val Ala Gln Leu Phe Ile Phe Leu Ala Leu Gly Ala Thr Glu Tyr  
 100 105 110  
 ctt ctc ctg gcc gtc atg tcc ttt gat agg ttt gta gct att tgt cgg 384  
 Leu Leu Leu Ala Val Met Ser Phe Asp Arg Phe Val Ala Ile Cys Arg  
 115 120 125  
 cct ctc cat tac tca gtt atc atg cac cag aga ctc tgc ctc cag ttg 432  
 Pro Leu His Tyr Ser Val Ile Met His Gln Arg Leu Cys Leu Gln Leu  
 130 135 140  
 gca gct gca tcc tgg gtt act ggt ttt agt aac tca gtg tgg ttg tct 480

Ala Ala Ala Ser Trp Val Thr Gly Phe Ser Asn Ser Val Trp Leu Ser  
 145 150 155 160

acc ctg act ctc cag ctg cca ctc tgt gac ccc tat gtg ata gat cac 528  
 Thr Leu Thr Leu Gln Leu Pro Leu Cys Asp Pro Tyr Val Ile Asp His  
 165 170 175

ttt ctc tgt gaa gtc cct gca ctg ctc aag tta tct tgt gtt gag aca 576  
 Phe Leu Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Val Glu Thr  
 180 185 190

aca gca aat gag gct gaa cta ttc ctt gtc agt gag ctc ttc cat cta 624  
 Thr Ala Asn Glu Ala Glu Leu Phe Leu Val Ser Glu Leu Phe His Leu  
 195 200 205

ata ccc ctg aca ctc atc ctt ata tca tat gct ttt att gtc cga gca 672  
 Ile Pro Leu Thr Leu Ile Leu Ile Ser Tyr Ala Phe Ile Val Arg Ala  
 210 215 220

gta ttg agg ata cag tct gct gaa ggt cga caa aaa gca ttt ggg aca 720  
 Val Leu Arg Ile Gln Ser Ala Glu Gly Arg Gln Lys Ala Phe Gly Thr  
 225 230 235 240

tgt ggt tcc cat cta att gtg gtg tct ctt ttt tat agt aca gcc gtc 768  
 Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Ser Thr Ala Val  
 245 250 255

tct gtg tac ctg caa cca cct tcg ccc agc tcc aag gac caa gga aag 816  
 Ser Val Tyr Leu Gln Pro Pro Ser Pro Ser Ser Lys Asp Gln Gly Lys  
 260 265 270

atg gtt tct ctc ttc tat gga atc att gca ccc atg ctg aat ccc ctt 864  
 Met Val Ser Leu Phe Tyr Gly Ile Ile Ala Pro Met Leu Asn Pro Leu  
 275 280 285

ata tat aca ctt agg aac aag gag gta aag gaa ggc ttt aaa agg ttg 912  
 Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Glu Gly Phe Lys Arg Leu  
 290 295 300

gtt gca aga gtc ttc tta atc aag aaa taa 942  
 Val Ala Arg Val Phe Leu Ile Lys Lys  
 305 310

<210> 10  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 10

Met Asn Trp Val Asn Asp Ser Ile Ile Gln Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Phe Ser Asp Arg Pro Trp Leu Glu Phe Pro Leu Leu Val Val Phe Leu  
 20 25 30

Ile Ser Tyr Thr Val Thr Ile Phe Gly Asn Leu Thr Ile Ile Leu Val  
 35 40 45

Ser Arg Leu Asp Thr Lys Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
 50 55 60

Asn Leu Ser Leu Leu Asp Leu Cys Tyr Thr Thr Cys Thr Val Pro Gln  
 65 70 75 80

Met Leu Val Asn Leu Cys Ser Ile Arg Lys Val Ile Ser Tyr Arg Gly  
 85 90 95

Cys Val Ala Gln Leu Phe Ile Phe Leu Ala Leu Gly Ala Thr Glu Tyr  
 100 105 110

Leu Leu Leu Ala Val Met Ser Phe Asp Arg Phe Val Ala Ile Cys Arg  
 115 120 125

Pro Leu His Tyr Ser Val Ile Met His Gln Arg Leu Cys Leu Gln Leu  
 130 135 140

Ala Ala Ala Ser Trp Val Thr Gly Phe Ser Asn Ser Val Trp Leu Ser  
 145 150 155 160

Thr Leu Thr Leu Gln Leu Pro Leu Cys Asp Pro Tyr Val Ile Asp His  
 165 170 175

Phe Leu Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Val Glu Thr  
 180 185 190

Thr Ala Asn Glu Ala Glu Leu Phe Leu Val Ser Glu Leu Phe His Leu  
 195 200 205

Ile Pro Leu Thr Leu Ile Leu Ile Ser Tyr Ala Phe Ile Val Arg Ala  
 210 215 220

Val Leu Arg Ile Gln Ser Ala Glu Gly Arg Gln Lys Ala Phe Gly Thr  
 225 230 235 240

Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Ser Thr Ala Val  
 245 250 255

Ser Val Tyr Leu Gln Pro Pro Ser Pro Ser Ser Lys Asp Gln Gly Lys  
 260 265 270

Met Val Ser Leu Phe Tyr Gly Ile Ile Ala Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Glu Gly Phe Lys Arg Leu  
 290 295 300

Val Ala Arg Val Phe Leu Ile Lys Lys  
 305 310

<210> 11  
 <211> 939  
 <212> DNA  
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<220>  
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 ttt tct ggc tac cca gcc ctg gag cat ctg ctc ttc cct ctg tgc tca 96  
 Phe Ser Gly Tyr Pro Ala Leu Glu His Leu Leu Phe Pro Leu Cys Ser  
 20 25 30  
 gcc atg tac ctg gtg acc ctc ctg ggg aac aca gcc atc atg gcg gtg 144  
 Ala Met Tyr Leu Val Thr Leu Leu Gly Asn Thr Ala Ile Met Ala Val  
 35 40 45  
 agc gtg cta gat atc cac ctg cac acg ccc gtg tac ttc ttc ctg ggc 192  
 Ser Val Leu Asp Ile His Leu His Thr Pro Val Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tct acc ctg gac atc tgc tac acg ccc acc ttt gtg cct ctg 240  
 Asn Leu Ser Thr Leu Asp Ile Cys Tyr Thr Pro Thr Phe Val Pro Leu  
 65 70 75 80  
 atg ctg gtc cac ctc ctg tca tcc cgg aag acc atc tcc ttt gct gtc 288  
 Met Leu Val His Leu Leu Ser Ser Arg Lys Thr Ile Ser Phe Ala Val  
 85 90 95  
 tgt gcc atc cag atg tgt ctg agc ctg tcc acg ggc tcc acg gag tgc 336  
 Cys Ala Ile Gln Met Cys Leu Ser Leu Ser Thr Gly Ser Thr Glu Cys  
 100 105 110  
 ctg cta ctg gcc atc acg gcc tat gac cgc tac ctg gcc atc tgc cag 384  
 Leu Leu Leu Ala Ile Thr Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gln  
 115 120 125  
 cca ctc agg tac cac gtg ctc atg agc cac cgg ctc tgc gtg ctg ctg 432  
 Pro Leu Arg Tyr His Val Leu Met Ser His Arg Leu Cys Val Leu Leu  
 130 135 140  
 atg gga gct gcc tgg gtc ctc tgc ctc ctc aag tcg gtg act gag atg 480  
 Met Gly Ala Ala Trp Val Leu Cys Leu Leu Lys Ser Val Thr Glu Met  
 145 150 155 160

gtc atc tcc atg agg ctg ccc ttc tgt ggc cac cac gtg gtc agt cac 528  
Val Ile Ser Met Arg Leu Pro Phe Cys Gly His His Val Val Ser His  
165 170 175

ttc acc tgc aag atc ctg gca gtg ctg aag ctg gca tgc ggc aac acg 576  
Phe Thr Cys Lys Ile Leu Ala Val Leu Lys Leu Ala Cys Gly Asn Thr  
180 185 190

tcg gtc agc gaa gac ttc ctg ctg gcg ggc tcc atc ctg ctg ctg cct 624  
Ser Val Ser Glu Asp Phe Leu Leu Ala Gly Ser Ile Leu Leu Leu Pro  
195 200 205

gta ccc ctg gca ttc atc tgc ctg tcc tac ttg ctc atc ctg gcc acc 672  
Val Pro Leu Ala Phe Ile Cys Leu Ser Tyr Leu Leu Ile Leu Ala Thr  
210 215 220

atc ctg agg gtg ccc tcg gcc gcc agg tgc tgc aaa gcc ttc tcc acc 720  
Ile Leu Arg Val Pro Ser Ala Ala Arg Cys Cys Lys Ala Phe Ser Thr  
225 230 235 240

tgc ttg gca cac ctg gct gta gtg ctg ctt ttc tac ggc acc atc atc 768  
Cys Leu Ala His Leu Ala Val Val Leu Leu Phe Tyr Gly Thr Ile Ile  
245 250 255

ttc atg tac ttg aag ccc aag agt aag gaa gcc cac atc tct gat gag 816  
Phe Met Tyr Leu Lys Pro Lys Ser Lys Glu Ala His Ile Ser Asp Glu  
260 265 270

gtc ttc aca gtc ctc tat gcc atg gtc acg acc atg ctg aac ccc acc 864  
Val Phe Thr Val Leu Tyr Ala Met Val Thr Thr Met Leu Asn Pro Thr  
275 280 285

atc tac agc ctg agg aac aag gag gtg aag gag gcc gcc agg aag gtg 912  
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Ala Arg Lys Val  
290 295 300

tgg ggc agg agt cgg gcc tcc agg tga 939  
Trp Gly Arg Ser Arg Ala Ser Arg  
305 310

<210> 12  
<211> 312  
<212> PRT  
<213> Homo Sapiens

<400> 12

Met Glu Pro Leu Asn Arg Thr Glu Val Ser Glu Phe Phe Leu Lys Gly  
1 5 10 15

Phe Ser Gly Tyr Pro Ala Leu Glu His Leu Leu Phe Pro Leu Cys Ser  
20 25 30

Ala Met Tyr Leu Val Thr Leu Leu Gly Asn Thr Ala Ile Met Ala Val  
35 40 45

Ser Val Leu Asp Ile His Leu His Thr Pro Val Tyr Phe Phe Leu Gly

50	55	60
Asn Leu Ser Thr Leu Asp Ile Cys Tyr Thr Pro Thr Phe Val Pro Leu		
65	70	75 80
Met Leu Val His Leu Leu Ser Ser Arg Lys Thr Ile Ser Phe Ala Val		
	85	90 95
Cys Ala Ile Gln Met Cys Leu Ser Leu Ser Thr Gly Ser Thr Glu Cys		
	100	105 110
Leu Leu Leu Ala Ile Thr Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gln		
	115	120 125
Pro Leu Arg Tyr His Val Leu Met Ser His Arg Leu Cys Val Leu Leu		
	130	135 140
Met Gly Ala Ala Trp Val Leu Cys Leu Leu Lys Ser Val Thr Glu Met		
	145	150 155 160
Val Ile Ser Met Arg Leu Pro Phe Cys Gly His His Val Val Ser His		
	165	170 175
Phe Thr Cys Lys Ile Leu Ala Val Leu Lys Leu Ala Cys Gly Asn Thr		
	180	185 190
Ser Val Ser Glu Asp Phe Leu Leu Ala Gly Ser Ile Leu Leu Leu Pro		
	195	200 205
Val Pro Leu Ala Phe Ile Cys Leu Ser Tyr Leu Leu Ile Leu Ala Thr		
	210	215 220
Ile Leu Arg Val Pro Ser Ala Ala Arg Cys Cys Lys Ala Phe Ser Thr		
	225	230 235 240
Cys Leu Ala His Leu Ala Val Val Leu Leu Phe Tyr Gly Thr Ile Ile		
	245	250 255
Phe Met Tyr Leu Lys Pro Lys Ser Lys Glu Ala His Ile Ser Asp Glu		
	260	265 270
Val Phe Thr Val Leu Tyr Ala Met Val Thr Thr Met Leu Asn Pro Thr		
	275	280 285
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Ala Arg Lys Val		
	290	295 300

Trp Gly Arg Ser Arg Ala Ser Arg  
305 310

<210> 13  
<211> 1083  
<212> DNA  
<213> Homo Sapiens

<220>  
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<222> (1)..(1080)  
<223>

<400> 13  
atg agc atc caa aag acg tat ctg gag gga gat ttt gtc ttt cct gtg 48  
Met Ser Ile Gln Lys Thr Tyr Leu Glu Gly Asp Phe Val Phe Pro Val  
1 5 10 15  
agc agc agc agc ttc cta cgg acc ctg ctg gag ccc cag ctc gga tca 96  
Ser Ser Ser Ser Phe Leu Arg Thr Leu Leu Glu Pro Gln Leu Gly Ser  
20 25 30  
gcc ctt ctg aca gca atg aat gct tgc tgc tgc ctg ccc tct gtt cag 144  
Ala Leu Leu Thr Ala Met Asn Ala Ser Cys Cys Leu Pro Ser Val Gln  
35 40 45  
cca aca ctg cct aat ggc tgc gag cac ctc caa gcc cct ttc ttc agc 192  
Pro Thr Leu Pro Asn Gly Ser Glu His Leu Gln Ala Pro Phe Phe Ser  
50 55 60  
aac cag agc agc agc gcc ttc tgt gag cag gtc ttc atc aag ccc gag 240  
Asn Gln Ser Ser Ser Ala Phe Cys Glu Gln Val Phe Ile Lys Pro Glu  
65 70 75 80  
gtt ttc ctg tct ctg ggc atc gtc agt ctg ctg gaa aac atc ctg gtt 288  
Val Phe Leu Ser Leu Gly Ile Val Ser Leu Leu Glu Asn Ile Leu Val  
85 90 95  
atc ctg gcc gtg gtc agg aac ggc aac ctg cac tcc ccg atg tac ttc 336  
Ile Leu Ala Val Val Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe  
100 105 110  
ttt ctc tgc agc ctg gcg gtg gcc gac atg ctg gta agt gtg tcc aat 384  
Phe Leu Cys Ser Leu Ala Val Ala Asp Met Leu Val Ser Val Ser Asn  
115 120 125  
gcc ctg gag acc atc atg atc gcc atc gtc cac agc gac tac ctg acc 432  
Ala Leu Glu Thr Ile Met Ile Ala Ile Val His Ser Asp Tyr Leu Thr  
130 135 140  
ttc gag gac cag ttt atc cag cac atg gac aac atc ttc gac tcc atg 480  
Phe Glu Asp Gln Phe Ile Gln His Met Asp Asn Ile Phe Asp Ser Met  
145 150 155 160  
atc tgc atc tcc ctg gtg gcc tcc atc tgc aac ctc ctg gcc atc gcc 528  
Ile Cys Ile Ser Leu Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala  
165 170 175



gtc gac agg tac gtc acc atc ttt tac gcg ctc cgc tac cac agc atc 576  
 Val Asp Arg Tyr Val Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile  
 180 185 190

atg acc gtg agg aag gcc ctc acc ttg atc gtg gcc atc tgg gtc tgc 624  
 Met Thr Val Arg Lys Ala Leu Thr Leu Ile Val Ala Ile Trp Val Cys  
 195 200 205

tgc ggc gtc tgt ggc gtg gtg ttc atc gtc tac tcg gag agc aaa atg 672  
 Cys Gly Val Cys Gly Val Val Phe Ile Val Tyr Ser Glu Ser Lys Met  
 210 215 220

gtc att gtg tgc ctc atc acc atg ttc ttc gcc atg atg ctc ctc atg 720  
 Val Ile Val Cys Leu Ile Thr Met Phe Phe Ala Met Met Leu Leu Met  
 225 230 235 240

ggc acc ctc tac gtg cac atg ttc ctc ttt gcg cgg ctg cac gtc aag 768  
 Gly Thr Leu Tyr Val His Met Phe Leu Phe Ala Arg Leu His Val Lys  
 245 250 255

cgc ata gca gca ctg cca cct gcc gac ggg gtg gcc cca cag caa cac 816  
 Arg Ile Ala Ala Leu Pro Pro Ala Asp Gly Val Ala Pro Gln Gln His  
 260 265 270

tca tgc atg aag ggg gca gtc acc atc acc att ctc ctg ggc gtg ttc 864  
 Ser Cys Met Lys Gly Ala Val Thr Ile Thr Ile Leu Leu Gly Val Phe  
 275 280 285

atc ttc tgc tgg gcc ccc ttc ttc ctc cac ctg gtc ctc atc atc acc 912  
 Ile Phe Cys Trp Ala Pro Phe Phe Leu His Leu Val Leu Ile Ile Thr  
 290 295 300

tgc ccc acc aac ccc tac tgc atc tgc tac act gcc cac ttc aac acc 960  
 Cys Pro Thr Asn Pro Tyr Cys Ile Cys Tyr Thr Ala His Phe Asn Thr  
 305 310 315 320

tac ctg gtc ctc atc atg tgc aac tcc gtc atc gac cca ctc atc tac 1008  
 Tyr Leu Val Leu Ile Met Cys Asn Ser Val Ile Asp Pro Leu Ile Tyr  
 325 330 335

gct ttc cgg agc ctg gaa ttg cgc aac acc ttt agg gag att ctc tgt 1056  
 Ala Phe Arg Ser Leu Glu Leu Arg Asn Thr Phe Arg Glu Ile Leu Cys  
 340 345 350

ggc tgc aac ggc atg aac ttg gga tag 1083  
 Gly Cys Asn Gly Met Asn Leu Gly  
 355 360

<210> 14  
 <211> 360  
 <212> PRT  
 <213> Homo Sapiens

<400> 14

Met Ser Ile Gln Lys Thr Tyr Leu Glu Gly Asp Phe Val Phe Pro Val  
 1 5 10 15

Ser Ser Ser Ser Phe Leu Arg Thr Leu Leu Glu Pro Gln Leu Gly Ser  
 20 25 30  
 Ala Leu Leu Thr Ala Met Asn Ala Ser Cys Cys Leu Pro Ser Val Gln  
 35 40 45  
 Pro Thr Leu Pro Asn Gly Ser Glu His Leu Gln Ala Pro Phe Phe Ser  
 50 55 60  
 Asn Gln Ser Ser Ser Ala Phe Cys Glu Gln Val Phe Ile Lys Pro Glu  
 65 70 75 80  
 Val Phe Leu Ser Leu Gly Ile Val Ser Leu Leu Glu Asn Ile Leu Val  
 85 90 95  
 Ile Leu Ala Val Val Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe  
 100 105 110  
 Phe Leu Cys Ser Leu Ala Val Ala Asp Met Leu Val Ser Val Ser Asn  
 115 120 125  
 Ala Leu Glu Thr Ile Met Ile Ala Ile Val His Ser Asp Tyr Leu Thr  
 130 135 140  
 Phe Glu Asp Gln Phe Ile Gln His Met Asp Asn Ile Phe Asp Ser Met  
 145 150 155 160  
 Ile Cys Ile Ser Leu Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala  
 165 170 175  
 Val Asp Arg Tyr Val Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile  
 180 185 190  
 Met Thr Val Arg Lys Ala Leu Thr Leu Ile Val Ala Ile Trp Val Cys  
 195 200 205  
 Cys Gly Val Cys Gly Val Val Phe Ile Val Tyr Ser Glu Ser Lys Met  
 210 215 220  
 Val Ile Val Cys Leu Ile Thr Met Phe Phe Ala Met Met Leu Leu Met  
 225 230 235 240  
 Gly Thr Leu Tyr Val His Met Phe Leu Phe Ala Arg Leu His Val Lys  
 245 250 255  
 Arg Ile Ala Ala Leu Pro Pro Ala Asp Gly Val Ala Pro Gln Gln His

260	265	270
Ser Cys Met Lys Gly Ala Val Thr Ile Thr Ile Leu Leu Gly Val Phe		
275	280	285
Ile Phe Cys Trp Ala Pro Phe Phe Leu His Leu Val Leu Ile Ile Thr		
290	295	300
Cys Pro Thr Asn Pro Tyr Cys Ile Cys Tyr Thr Ala His Phe Asn Thr		
305	310	315
Tyr Leu Val Leu Ile Met Cys Asn Ser Val Ile Asp Pro Leu Ile Tyr		
325	330	335
Ala Phe Arg Ser Leu Glu Leu Arg Asn Thr Phe Arg Glu Ile Leu Cys		
340	345	350
Gly Cys Asn Gly Met Asn Leu Gly		
355	360	

<210> 15  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(933)  
 <223>

<400> 15	
atg aaa ggg gca aac ctg agc caa ggg atg gag ttt gag ctc ttg ggc	48
Met Lys Gly Ala Asn Leu Ser Gln Gly Met Glu Phe Glu Leu Leu Gly	
1 5 10 15	
ctc acc act gac ccc cag ctc cag agg ctg ctc ttc gtg gtg ttc ctg	96
Leu Thr Thr Asp Pro Gln Leu Gln Arg Leu Leu Phe Val Val Phe Leu	
20 25 30	
ggc atg tac aca gcc act ctg ctg ggg aac ctg gtc atg ttc ctc ctg	144
Gly Met Tyr Thr Ala Thr Leu Leu Gly Asn Leu Val Met Phe Leu Leu	
35 40 45	
atc cat gtg agt gcc acc ctg cac aca ccc atg tac tcc ctc ctg aag	192
Ile His Val Ser Ala Thr Leu His Thr Pro Met Tyr Ser Leu Leu Lys	
50 55 60	
agc ctc tcc ttc ttg gat ttc tgc tac tcc tcc acg gtt gtg ccc cag	240
Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Thr Val Val Pro Gln	
65 70 75 80	
acc ctg gtg aac ttc ttg gcc aag agg aaa gtg atc tct tat ttt ggc	288
Thr Leu Val Asn Phe Leu Ala Lys Arg Lys Val Ile Ser Tyr Phe Gly	

85										90					95					
tgc	atg	act	cag	atg	ttc	ttc	tat	gcg	ggt	ttt	gcc	acc	agt	gag	tgc	336				
Cys	Met	Thr	Gln	Met	Phe	Phe	Tyr	Ala	Gly	Phe	Ala	Thr	Ser	Glu	Cys					
			100					105					110							
tat	ctc	atc	gct	gcc	atg	gcc	tat	gac	cgc	tat	gcc	gct	att	tgt	aac	384				
Tyr	Leu	Ile	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Ile	Cys	Asn					
			115				120					125								
ccc	ctg	ctc	tac	tca	acc	atc	atg	tct	cct	gag	gtc	tgt	gcc	tcg	ctg	432				
Pro	Leu	Leu	Tyr	Ser	Thr	Ile	Met	Ser	Pro	Glu	Val	Cys	Ala	Ser	Leu					
	130					135					140									
att	gtg	ggc	tcc	tac	agt	gca	gga	ttc	ctc	aat	tct	ctt	atc	cac	act	480				
Ile	Val	Gly	Ser	Tyr	Ser	Ala	Gly	Phe	Leu	Asn	Ser	Leu	Ile	His	Thr					
145					150					155					160					
ggc	tgt	atc	ttt	agt	ctg	aaa	ttc	tgc	ggt	gct	cat	gtc	gtc	act	cac	528				
Gly	Cys	Ile	Phe	Ser	Leu	Lys	Phe	Cys	Gly	Ala	His	Val	Val	Thr	His					
				165				170						175						
ttc	ttc	tgt	gat	ggg	cca	ccc	atc	ctg	tcc	ttg	tct	tgt	gta	gac	acc	576				
Phe	Phe	Cys	Asp	Gly	Pro	Pro	Ile	Leu	Ser	Leu	Ser	Cys	Val	Asp	Thr					
			180				185						190							
tca	ctg	tgt	gag	atc	ctg	ctc	ttc	att	ttt	gct	ggt	ttc	aac	ctt	ttg	624				
Ser	Leu	Cys	Glu	Ile	Leu	Leu	Phe	Ile	Phe	Ala	Gly	Phe	Asn	Leu	Leu					
			195				200					205								
agc	tgc	acc	ctc	acc	atc	ttg	atc	tcc	tac	ttc	tta	att	ctc	aac	acc	672				
Ser	Cys	Thr	Leu	Thr	Ile	Leu	Ile	Ser	Tyr	Phe	Leu	Ile	Leu	Asn	Thr					
	210					215					220									
atc	ctg	aaa	atg	agc	tcg	gcc	cag	ggc	agg	ttt	aag	gca	ttt	tcc	acc	720				
Ile	Leu	Lys	Met	Ser	Ser	Ala	Gln	Gly	Arg	Phe	Lys	Ala	Phe	Ser	Thr					
225						230				235					240					
tgt	gca	tcc	cac	ctc	act	gcc	atc	tgc	ctc	ttc	ttt	ggc	aca	aca	ctt	768				
Cys	Ala	Ser	His	Leu	Thr	Ala	Ile	Cys	Leu	Phe	Phe	Gly	Thr	Thr	Leu					
				245				250						255						
ttt	atg	tac	ctg	cgc	ccc	agg	tcc	agc	tac	tcc	ttg	acc	cag	gac	cgc	816				
Phe	Met	Tyr	Leu	Arg	Pro	Arg	Ser	Ser	Tyr	Ser	Leu	Thr	Gln	Asp	Arg					
			260				265						270							
aca	gtt	gct	gtc	atc	tac	aca	gtg	gtg	atc	cca	gtg	ctg	aac	ccc	ctc	864				
Thr	Val	Ala	Val	Ile	Tyr	Thr	Val	Val	Ile	Pro	Val	Leu	Asn	Pro	Leu					
			275				280					285								
atg	tac	tct	ttg	aga	aac	aag	gat	gtg	aag	aaa	gct	tta	ata	aag	gtt	912				
Met	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Leu	Ile	Lys	Val					
	290					295					300									
tgg	ggt	agg	aaa	aca	atg	gaa	tga									936				
Trp	Gly	Arg	Lys	Thr	Met	Glu														
305					310															

<210> 16  
<211> 311

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 16

Met Lys Gly Ala Asn Leu Ser Gln Gly Met Glu Phe Glu Leu Leu Gly  
 1 5 10 15

Leu Thr Thr Asp Pro Gln Leu Gln Arg Leu Leu Phe Val Val Phe Leu  
 20 25 30

Gly Met Tyr Thr Ala Thr Leu Leu Gly Asn Leu Val Met Phe Leu Leu  
 35 40 45

Ile His Val Ser Ala Thr Leu His Thr Pro Met Tyr Ser Leu Leu Lys  
 50 55 60

Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Thr Val Val Pro Gln  
 65 70 75 80

Thr Leu Val Asn Phe Leu Ala Lys Arg Lys Val Ile Ser Tyr Phe Gly  
 85 90 95

Cys Met Thr Gln Met Phe Phe Tyr Ala Gly Phe Ala Thr Ser Glu Cys  
 100 105 110

Tyr Leu Ile Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn  
 115 120 125

Pro Leu Leu Tyr Ser Thr Ile Met Ser Pro Glu Val Cys Ala Ser Leu  
 130 135 140

Ile Val Gly Ser Tyr Ser Ala Gly Phe Leu Asn Ser Leu Ile His Thr  
 145 150 155 160

Gly Cys Ile Phe Ser Leu Lys Phe Cys Gly Ala His Val Val Thr His  
 165 170 175

Phe Phe Cys Asp Gly Pro Pro Ile Leu Ser Leu Ser Cys Val Asp Thr  
 180 185 190

Ser Leu Cys Glu Ile Leu Leu Phe Ile Phe Ala Gly Phe Asn Leu Leu  
 195 200 205

Ser Cys Thr Leu Thr Ile Leu Ile Ser Tyr Phe Leu Ile Leu Asn Thr  
 210 215 220

Ile Leu Lys Met Ser Ser Ala Gln Gly Arg Phe Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Ile Cys Leu Phe Phe Gly Thr Thr Leu  
 245 250 255

Phe Met Tyr Leu Arg Pro Arg Ser Ser Tyr Ser Leu Thr Gln Asp Arg  
 260 265 270

Thr Val Ala Val Ile Tyr Thr Val Val Ile Pro Val Leu Asn Pro Leu  
 275 280 285

Met Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Ile Lys Val  
 290 295 300

Trp Gly Arg Lys Thr Met Glu  
 305 310

<210> 17  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

<400> 17  
 atg ggt gta aaa aac cat tcc aca gtg act gag ttt ctt ctt tca gga 48  
 Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly  
 1 5 10 15  
 tta act gaa caa gca gag ctt cag ctg ccc ctc ttc tgc ctc ttc tta 96  
 Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu  
 20 25 30  
 gga att tac aca gtt act gtg gtg gga aac ctc agc atg atc tca att 144  
 Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile  
 35 40 45  
 att agg ctg aat cgt caa ctt cat acc ccc atg tac tat ttc ctg agt 192  
 Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60  
 agt ttg tct ttt tta gat ttc tgc tat tct tct gtc att acc cct aaa 240  
 Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
 65 70 75 80  
 atg cta tca ggg ttt tta tgc aga gat aga tcc atc tcc tat tct gga 288  
 Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly  
 85 90 95  
 tgc atg att cag ctg ttt ttt ttc tgt gtt tgt gtt att tct gaa tgc 336

Cys	Met	Ile	Gln	Leu	Phe	Phe	Phe	Cys	Val	Cys	Val	Ile	Ser	Glu	Cys		
			100					105					110				
tac	atg	ctg	gca	gcc	atg	gcc	tgc	gat	cgc	tac	gtg	gcc	atc	tgc	agc		384
Tyr	Met	Leu	Ala	Ala	Met	Ala	Cys	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ser		
		115					120					125					
cca	ctg	ctc	tac	agg	gtc	atc	atg	tcc	cct	agg	gtc	tgt	tct	ctg	ctg		432
Pro	Leu	Leu	Tyr	Arg	Val	Ile	Met	Ser	Pro	Arg	Val	Cys	Ser	Leu	Leu		
	130					135					140						
gtg	gct	gct	gtc	ttc	tca	gta	ggc	ttc	act	gat	gct	gtg	atc	cat	gga		480
Val	Ala	Ala	Val	Phe	Ser	Val	Gly	Phe	Thr	Asp	Ala	Val	Ile	His	Gly		
	145				150				155						160		
ggc	tgt	ata	ctc	agg	ttg	tct	ttc	tgt	gga	tca	aac	atc	att	aaa	cat		528
Gly	Cys	Ile	Leu	Arg	Leu	Ser	Phe	Cys	Gly	Ser	Asn	Ile	Ile	Lys	His		
			165					170						175			
tat	ttc	tgt	gac	att	gtc	cct	ctt	att	aaa	ctc	tcc	tgc	tcc	agc	act		576
Tyr	Phe	Cys	Asp	Ile	Val	Pro	Leu	Ile	Lys	Leu	Ser	Cys	Ser	Ser	Thr		
			180				185						190				
tat	att	gat	gag	ctt	ttg	att	ttt	gtc	att	ggc	gga	ttt	aac	atg	gtg		624
Tyr	Ile	Asp	Glu	Leu	Leu	Ile	Phe	Val	Ile	Gly	Gly	Phe	Asn	Met	Val		
		195				200						205					
gcc	aca	agc	cta	aca	atc	att	att	tca	tat	gct	ttt	atc	ctc	acc	agc		672
Ala	Thr	Ser	Leu	Thr	Ile	Ile	Ile	Ser	Tyr	Ala	Phe	Ile	Leu	Thr	Ser		
	210				215					220							
atc	ctg	cgc	atc	cac	tct	aaa	aag	ggc	agg	tgc	aaa	gcg	ttt	agc	acc		720
Ile	Leu	Arg	Ile	His	Ser	Lys	Lys	Gly	Arg	Cys	Lys	Ala	Phe	Ser	Thr		
	225				230			235						240			
tgt	agc	tcc	cac	ctg	aca	gct	gtt	ctt	atg	ttt	tat	ggg	tct	ctg	atg		768
Cys	Ser	Ser	His	Leu	Thr	Ala	Val	Leu	Met	Phe	Tyr	Gly	Ser	Leu	Met		
			245				250						255				
tcc	atg	tat	ctc	aaa	cct	gct	tct	agc	agt	tca	ctc	acc	cag	gag	aaa		816
Ser	Met	Tyr	Leu	Lys	Pro	Ala	Ser	Ser	Ser	Ser	Leu	Thr	Gln	Glu	Lys		
			260				265						270				
gta	tcc	tca	gta	ttt	tat	acc	act	gtg	att	ctc	atg	ttg	aat	ccc	ttg		864
Val	Ser	Ser	Val	Phe	Tyr	Thr	Thr	Val	Ile	Leu	Met	Leu	Asn	Pro	Leu		
			275				280					285					
ata	tat	agt	ctg	agg	aac	aat	gaa	gta	aga	aat	gct	ctg	atg	aaa	ctt		912
Ile	Tyr	Ser	Leu	Arg	Asn	Asn	Glu	Val	Arg	Asn	Ala	Leu	Met	Lys	Leu		
		290				295				300							
tta	aga	aga	aaa	ata	tct	tta	tct	cca	gga	taa							945
Leu	Arg	Arg	Lys	Ile	Ser	Leu	Ser	Pro	Gly								
			305			310											

&lt;210&gt; 18

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 18

Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly  
 1 5 10 15

Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu  
 20 25 30

Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile  
 35 40 45

Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60

Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
 65 70 75 80

Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly  
 85 90 95

Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys  
 100 105 110

Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu  
 130 135 140

Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly  
 145 150 155 160

Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His  
 165 170 175

Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr  
 180 185 190

Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val  
 195 200 205

Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser  
 210 215 220

Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr  
 225 230 235 240



Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met  
245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys  
260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu  
290 295 300

Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly  
305 310

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<210> 19
<211> 936
<212> DNA
<213> Homo Sapiens
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<222> (1) .. (933)
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Met Ser Asn Ala Thr Leu Leu Thr Ala Phe Ile Leu Thr Gly Leu Pro																
1	5	10										15				
cat gcc cca ggg ctg gac gcc ccc ctc ttt gga atc ttc ctg gtg gtt																96
His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val																
	20	25										30				
tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg																144
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg		40										45				
	35															
gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg																192
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu																
	50	55										60				
tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg																240
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu		70										75				80
65																
atg acc ttg gtg tcc cca agc ggc agg act atc tcc ttc cac agc tgc																288
Met Thr Leu Val Ser Pro Ser Gly Arg Thr Ile Ser Phe His Ser Cys		85										90				95
gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc																336
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe		100										105				110

ctc tac aca gtc atg tcc tat gat cgc tac ctg gcc atc agt tac ccg 384  
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125

ctc agg tac acc aac atg atg act ggg cgc tcg tgt gcc ctc ctg gcc 432  
 Leu Arg Tyr Thr Asn Met Met Thr Gly Arg Ser Cys Ala Leu Leu Ala  
 130 135 140

acc ggc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata 480  
 Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tac 528  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

ttc tgt gac gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576  
 Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

gcc aac gag atg gtc atc ttt gtg aat att ggg cta gtg gcc tcg ggc 624  
 Ala Asn Glu Met Val Ile Phe Val Asn Ile Gly Leu Val Ala Ser Gly  
 195 200 205

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc 672  
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

ctg cgg atc cgc acc tca gag ggg agg cac aga gcc ttt cag acc tgt 720  
 Leu Arg Ile Arg Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys  
 225 230 235 240

gcc tcc cac tgt atc gtg gtc ctt tgc ttc ttt ggc cct ggt ctt ttc 768  
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe  
 245 250 255

att tac ctg agg cca ggc tcc agg gac gcc ttg cat ggg gtt gtg gcc 816  
 Ile Tyr Leu Arg Pro Gly Ser Arg Asp Ala Leu His Gly Val Val Ala  
 260 265 270

gtt ttc tac acc acg ctg act cct ctt ttc aac cct gtt gtg tac acc 864  
 Val Phe Tyr Thr Thr Leu Thr Pro Leu Phe Asn Pro Val Val Tyr Thr  
 275 280 285

ctg aga aac aag gag gta aag aaa gct ctg ttg aag ctg aaa aat ggg 912  
 Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asn Gly  
 290 295 300

tca gta ttt gct cag ggt gaa tag 936  
 Ser Val Phe Ala Gln Gly Glu  
 305 310

&lt;210&gt; 20

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 20

Met Ser Asn Ala Thr Leu Leu Thr Ala Phe Ile Leu Thr Gly Leu Pro

1	5	10	15
His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val	20	25	30
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg	35	40	45
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu	50	55	60
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu	65	70	75
Met Thr Leu Val Ser Pro Ser Gly Arg Thr Ile Ser Phe His Ser Cys	85	90	95
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe	100	105	110
Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro	115	120	125
Leu Arg Tyr Thr Asn Met Met Thr Gly Arg Ser Cys Ala Leu Leu Ala	130	135	140
Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile	145	150	155
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr	165	170	175
Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser	180	185	190
Ala Asn Glu Met Val Ile Phe Val Asn Ile Gly Leu Val Ala Ser Gly	195	200	205
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile	210	215	220
Leu Arg Ile Arg Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys	225	230	235
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe	245	250	255

Ile Tyr Leu Arg Pro Gly Ser Arg Asp Ala Leu His Gly Val Val Ala  
                   260                                  265                                  270

Val Phe Tyr Thr Thr Leu Thr Pro Leu Phe Asn Pro Val Val Tyr Thr  
                   275                                  280                                  285

Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asn Gly  
                   290                                  295                                  300

Ser Val Phe Ala Gln Gly Glu  
 305                                  310

<210> 21  
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 <212> DNA  
 <213> Homo Sapiens

<220>  
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 Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly  
 1                  5                                  10                                  15  
 ttc ccc agt agc cac ctc ata cag ttc ctg gtg ttc ctg ggg tta atg 96  
 Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met  
                   20                                  25                                  30  
 gtg acc tac att gta aca gcc aca ggc aag ctg cta att att gtg ctc 144  
 Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu  
                   35                                  40                                  45  
 agc tgg ata gac caa cgc ctg cac ata cag atg tac ttc ttc ctg cgg 192  
 Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg  
                   50                                  55                                  60  
 aat ttc tcc ttc ctg gag ctg ttg ctg gta act gtt gtg gtt ccc aag 240  
 Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys  
 65                                  70                                  75                                  80  
 atg ctt gtc gtc atc ctc acg ggg gat cac acc atc tca ttt gtc agc 288  
 Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser  
                   85                                  90                                  95  
 tgc atc atc cag tcc tac ctc tac ttc ttt cta ggc acc act gac ttc 336  
 Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe  
                   100                                  105                                  110  
 ttc ctc ttg gcc gtc atg tct ctg gat cgt tac ctg gca atc tgc cga 384  
 Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg  
                   115                                  120                                  125

cca ctc cgc tat gag acc ctg atg aat ggc cat gtc tgt tcc caa cta 432  
Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu  
130 135 140

gtg ctg gcc tcc tgg cta gct gga ttc ctc tgg gtc ctt tgc ccc act 480  
Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr  
145 150 155 160

gtc ctc atg gcc agc ctg cct ttc tgt ggc ccc aat ggt att gac cac 528  
Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His  
165 170 175

ttc ttt cgt gac agt tgg ccc ttg ctc agg ctt tct tgt ggg gac acc 576  
Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr  
180 185 190

cac ctg ctg aaa ctg gtg gct ttc atg ctc tct acg ttg gtg tta ctg 624  
His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu  
195 200 205

ggc tca ctg gct ctg acc tca gtt tcc tat gcc tgc att ctt gcc act 672  
Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr  
210 215 220

gtt ctc agg gcc cct aca gct gct gag cga agg aaa gcg ttt tcc act 720  
Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr  
225 230 235 240

tgc gcc tcg cat ctt aca gtg gtg gtc atc atc tat ggc agt tcc atc 768  
Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile  
245 250 255

ttt ctc tac att cgt atg tca gag gct cag tcc aaa ctg ctc aac aaa 816  
Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys  
260 265 270

ggt gcc tcc gtc ctg agc tgc atc atc aca ccc ctc ttg aac cca ttc 864  
Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe  
275 280 285

atc ttc act ctc cgc aat gac aag gtg cag caa gca ctg aga gaa gcc 912  
Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala  
290 295 300

ttg ggg tgg ccc agg ctc act gct gtg atg aaa ctg agg gtc aca agt 960  
Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser  
305 310 315 320

caa agg aaa tga 972  
Gln Arg Lys

<210> 22  
<211> 323  
<212> PRT  
<213> Homo Sapiens

<400> 22

Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly  
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Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met  
 20 25 30

Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu  
 35 40 45

Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg  
 50 55 60

Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys  
 65 70 75 80

Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser  
 85 90 95

Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe  
 100 105 110

Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg  
 115 120 125

Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu  
 130 135 140

Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr  
 145 150 155 160

Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His  
 165 170 175

Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr  
 180 185 190

His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu  
 195 200 205

Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr  
 210 215 220

Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile

245								250					255				
Phe	Leu	Tyr	Ile	Arg	Met	Ser	Glu	Ala	Gln	Ser	Lys	Leu	Leu	Asn	Lys		
			260					265					270				
Gly	Ala	Ser	Val	Leu	Ser	Cys	Ile	Ile	Thr	Pro	Leu	Leu	Asn	Pro	Phe		
		275					280					285					
Ile	Phe	Thr	Leu	Arg	Asn	Asp	Lys	Val	Gln	Gln	Ala	Leu	Arg	Glu	Ala		
	290					295					300						
Leu	Gly	Trp	Pro	Arg	Leu	Thr	Ala	Val	Met	Lys	Leu	Arg	Val	Thr	Ser		
305					310					315					320		

Gln Arg Lys

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<210> 23
<211> 957
<212> DNA
<213> Homo Sapiens
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<222> (1) .. (954)
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Met	Asn	Pro	Ala	Asn	His	Ser	Gln	Val	Ala	Gly	Phe	Val	Leu	Leu	Gly	48	
				5					10					15			
ctc	tct	cag	gtt	tgg	gag	ctt	cgg	ttt	gtt	ttc	ttc	act	gtt	ttc	tct		
Leu	Ser	Gln	Val	Trp	Glu	Leu	Arg	Phe	Val	Phe	Phe	Thr	Val	Phe	Ser	96	
			20				25				30						
gct	gtg	tat	ttt	atg	act	gta	gtg	gga	aac	ctt	ctt	att	gtg	gtc	ata		
Ala	Val	Tyr	Phe	Met	Thr	Val	Val	Gly	Asn	Leu	Leu	Ile	Val	Val	Ile	144	
			35				40				45						
gtg	acc	tcc	gac	cca	cac	ctg	cac	aca	acc	atg	tat	ttt	ctc	ttg	ggc		
Val	Thr	Ser	Asp	Pro	His	Leu	His	Thr	Thr	Met	Tyr	Phe	Leu	Leu	Gly	192	
		50				55				60							
aat	ctt	tct	ttc	ctg	gac	ttt	tgc	tac	tct	tcc	atc	aca	gca	cct	agg		
Asn	Leu	Ser	Phe	Leu	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Thr	Ala	Pro	Arg	240	
65				70				75				80					
atg	ctg	gtt	gac	ttg	ctc	tca	ggc	aac	cct	acc	att	tcc	ttt	ggg	gga		
Met	Leu	Val	Asp	Leu	Leu	Ser	Gly	Asn	Pro	Thr	Ile	Ser	Phe	Gly	Gly	288	
				85					90					95			
tgc	ctg	act	caa	ctc	ttc	ttc	ttc	cac	ttc	att	gga	ggc	atc	aag	atc		
Cys	Leu	Thr	Gln	Leu	Phe	Phe	Phe	His	Phe	Ile	Gly	Gly	Ile	Lys	Ile	336	

100	105	110	
ttc ctg ctg act gtc atg gcg tat gac cgc tac att gcc att tcc cag			384
Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln			
115	120	125	
ccc ctg cac tac acg ctc att atg aat cag act gtc tgt gca ctc ctt			432
Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu			
130	135	140	
atg gca gcc tcc tgg gtg ggg ggc ttc atc cac tcc ata gta cag att			480
Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile			
145	150	155	160
gca ttg act atc cag ctg cca ttc tgt ggg cct gac aag ctg gac aac			528
Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn			
165	170	175	
ttt tat tgt gat gtg cct cag ctg atc aaa ttg gcc tgc aca gat acc			576
Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr			
180	185	190	
ttt gtc tta gag ctt tta atg gtg tct aac aat ggc ctg gtg acc ctg			624
Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu			
195	200	205	
atg tgt ttt ctg gtg ctt ctg gga tgc tac aca gca ctg cta gtc atg			672
Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met			
210	215	220	
ctc cga agc cac tca cgg gag ggc cgc agc aag gcc ctg tct acc tgt			720
Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys			
225	230	235	240
gcc tct cac att gct gtg gtg acc tta atc ttt gtg cct tgc atc tac			768
Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr			
245	250	255	
gtc tat aca agg cct ttt cgg aca ttc ccc atg gac aag gcc gtc tct			816
Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser			
260	265	270	
gtg cta tac aca att gtc acc ccc atg ctg aat cct gcc atc tat acc			864
Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr			
275	280	285	
ctg aga aac aag gaa gtg atc atg gcc atg aag aag ctg tgg agg agg			912
Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg			
290	295	300	
aaa aag gac cct att ggt ccc ctg gag cac aga ccc tta cat tag			957
Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His			
305	310	315	

<210> 24  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 24



Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly  
 1 5 10 15  
 Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser  
 20 25 30  
 Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile  
 35 40 45  
 Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly  
 50 55 60  
 Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg  
 65 70 75 80  
 Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly  
 85 90 95  
 Cys Leu Thr Gln Leu Phe Phe Phe His Phe Ile Gly Gly Ile Lys Ile  
 100 105 110  
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln  
 115 120 125  
 Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu  
 130 135 140  
 Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile  
 145 150 155 160  
 Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn  
 165 170 175  
 Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr  
 180 185 190  
 Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu  
 195 200 205  
 Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met  
 210 215 220  
 Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys  
 225 230 235 240

Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr  
 245 250 255

Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser  
 260 265 270

Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr  
 275 280 285

Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg  
 290 295 300

Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His  
 305 310 315

<210> 25  
 <211> 999  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(996)  
 <223>

<400> 25  
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 Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp  
 1 5 10 15  
 gtg aac agc aag gaa ctg caa agt gga aac cag act tct gtg tct cac 96  
 Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His  
 20 25 30  
 ttc att ttg gtg ggc ctg cac cac cca cca cag ctg gga gcg cca ctc 144  
 Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu  
 35 40 45  
 ttc tta gct ttc ctt gtc atc tat ctc ctc act gtt tct gga aat ggg 192  
 Phe Leu Ala Phe Leu Val Ile Tyr Leu Leu Thr Val Ser Gly Asn Gly  
 50 55 60  
 ctc atc atc ctc act gtc tta gtg gac atc cgg ctc cat cgt ccc atg 240  
 Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met  
 65 70 75 80  
 tgc ttg ttc ctg tgt cac ctc tcc ttc ttg gac atg acc att tct tgt 288  
 Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys  
 85 90 95  
 gct att gtc ccc aag atg ctg gct ggc ttt ctc ttg ggt agt agg att 336  
 Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile  
 100 105 110  
 atc tcc ttt ggg ggc tgt gta atc caa cta ttt tct ttc cat ttc ctg 384

Ile Ser Phe Gly Gly Cys Val Ile Gln Leu Phe Ser Phe His Phe Leu	
115 120 125	
ggc tgt act gag tgc ttc ctt tac aca ctc atg gct tat gac cgt ttc	432
Gly Cys Thr Glu Cys Phe Leu Tyr Thr Leu Met Ala Tyr Asp Arg Phe	
130 135 140	
ctt gcc att tgt aag ccc tta cac tat gct acc atc atg acc cac aga	480
Leu Ala Ile Cys Lys Pro Leu His Tyr Ala Thr Ile Met Thr His Arg	
145 150 155 160	
gtc tgt aac tcc ctg gct tta ggc acc tgg ctg gga ggg act atc cat	528
Val Cys Asn Ser Leu Ala Leu Gly Thr Trp Leu Gly Gly Thr Ile His	
165 170 175	
tca ctt ttc caa aca agt ttt gta ttc cgg ctg ccc ttc tgt ggc ccc	576
Ser Leu Phe Gln Thr Ser Phe Val Phe Arg Leu Pro Phe Cys Gly Pro	
180 185 190	
aat cgg gtc gac tac atc ttc tgt gac att cct gcc atg ctg cgt cta	624
Asn Arg Val Asp Tyr Ile Phe Cys Asp Ile Pro Ala Met Leu Arg Leu	
195 200 205	
gcc tgc gcc gat acg gcc atc aac gag ctg gtc acc ttt gca gac att	672
Ala Cys Ala Asp Thr Ala Ile Asn Glu Leu Val Thr Phe Ala Asp Ile	
210 215 220	
ggc ttc ctg gcc ctc acc tgc ttc atg ctc atc ctc act tcc tat ggc	720
Gly Phe Leu Ala Leu Thr Cys Phe Met Leu Ile Leu Thr Ser Tyr Gly	
225 230 235 240	
tat att gta gct gcc atc ctg cga att ccg tca gca gat ggg cgc cgc	768
Tyr Ile Val Ala Ala Ile Leu Arg Ile Pro Ser Ala Asp Gly Arg Arg	
245 250 255	
aat gcc ttc tcc act tgt gct gcc cac ctc act gtt gtc att gtt tac	816
Asn Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ile Val Tyr	
260 265 270	
tat gtg ccc tgc acc ttc att tac ctg cgg cct tgt tca cag gag ccc	864
Tyr Val Pro Cys Thr Phe Ile Tyr Leu Arg Pro Cys Ser Gln Glu Pro	
275 280 285	
ctg gat ggg gtg gta gct gtc ttt tac act gtc atc act ccc ttg ctt	912
Leu Asp Gly Val Val Ala Val Phe Tyr Thr Val Ile Thr Pro Leu Leu	
290 295 300	
aac tcc atc atc tac aca ctg tgc aac aaa gaa atg aag gca gca tta	960
Asn Ser Ile Ile Tyr Thr Leu Cys Asn Lys Glu Met Lys Ala Ala Leu	
305 310 315 320	
cag agg cta ggg ggc cac aag gaa gtg cag cct cac tga	999
Gln Arg Leu Gly Gly His Lys Glu Val Gln Pro His	
325 330	

<210> 26  
 <211> 332  
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 <213> Homo Sapiens

&lt;400&gt; 26

Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp  
 1 5 10 15

Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His  
 20 25 30

Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu  
 35 40 45

Phe Leu Ala Phe Leu Val Ile Tyr Leu Leu Thr Val Ser Gly Asn Gly  
 50 55 60

Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met  
 65 70 75 80

Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys  
 85 90 95

Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile  
 100 105 110

Ile Ser Phe Gly Gly Cys Val Ile Gln Leu Phe Ser Phe His Phe Leu  
 115 120 125

Gly Cys Thr Glu Cys Phe Leu Tyr Thr Leu Met Ala Tyr Asp Arg Phe  
 130 135 140

Leu Ala Ile Cys Lys Pro Leu His Tyr Ala Thr Ile Met Thr His Arg  
 145 150 155 160

Val Cys Asn Ser Leu Ala Leu Gly Thr Trp Leu Gly Gly Thr Ile His  
 165 170 175

Ser Leu Phe Gln Thr Ser Phe Val Phe Arg Leu Pro Phe Cys Gly Pro  
 180 185 190

Asn Arg Val Asp Tyr Ile Phe Cys Asp Ile Pro Ala Met Leu Arg Leu  
 195 200 205

Ala Cys Ala Asp Thr Ala Ile Asn Glu Leu Val Thr Phe Ala Asp Ile  
 210 215 220

Gly Phe Leu Ala Leu Thr Cys Phe Met Leu Ile Leu Thr Ser Tyr Gly  
 225 230 235 240

Tyr Ile Val Ala Ala Ile Leu Arg Ile Pro Ser Ala Asp Gly Arg Arg  
                           245                          250                          255

Asn Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ile Val Tyr  
                           260                          265                          270

Tyr Val Pro Cys Thr Phe Ile Tyr Leu Arg Pro Cys Ser Gln Glu Pro  
                           275                          280                          285

Leu Asp Gly Val Val Ala Val Phe Tyr Thr Val Ile Thr Pro Leu Leu  
                           290                          295                          300

Asn Ser Ile Ile Tyr Thr Leu Cys Asn Lys Glu Met Lys Ala Ala Leu  
                           305                          310                          315                          320

Gln Arg Leu Gly Gly His Lys Glu Val Gln Pro His  
                           325                          330

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Met Pro Val Gly Lys Leu Val Phe Asn Gln Ser Glu Pro Thr Glu Phe	
1                          5                          10                          15	
gtg ttc cgt gcg ttc acc aca gcc act gaa ttc cag gtt ctt ctc ttc	96
Val Phe Arg Ala Phe Thr Thr Ala Thr Glu Phe Gln Val Leu Leu Phe	
20                          25                          30	
ctt ctc ttc ctc ctc ctc tac ttg atg atc ctc tgt ggc aac aca gcc	144
Leu Leu Phe Leu Leu Leu Tyr Leu Met Ile Leu Cys Gly Asn Thr Ala	
35                          40                          45	
atc atc tgg gtg gtg tgc aca cac agc acc ctc cgc acc ccg atg tat	192
Ile Ile Trp Val Val Cys Thr His Ser Thr Leu Arg Thr Pro Met Tyr	
50                          55                          60	
ttc ttc ctg tcc aac ctg tct ttc ctg gaa ctc tgc tac acc acc gtg	240
Phe Phe Leu Ser Asn Leu Ser Phe Leu Glu Leu Cys Tyr Thr Thr Val	
65                          70                          75                          80	
gta gta ccc ttg atg ctt tcc aac att ttg ggg gcc cag aag ccc att	288
Val Val Pro Leu Met Leu Ser Asn Ile Leu Gly Ala Gln Lys Pro Ile	
85                          90                          95	

tcg ttg gct gga tgt ggg gcc caa atg ttc ttc ttt gtc acc ctc ggc	336
Ser Leu Ala Gly Cys Gly Ala Gln Met Phe Phe Phe Val Thr Leu Gly	
100 105 110	
agc acg gac tgt ttc ctc ttg gcg atc atg gcc tat gac cgc tat gtg	384
Ser Thr Asp Cys Phe Leu Leu Ala Ile Met Ala Tyr Asp Arg Tyr Val	
115 120 125	
gct atc tgc cac ccg ctg cac tac acc ctc atc atg acc cgc gag ctg	432
Ala Ile Cys His Pro Leu His Tyr Thr Leu Ile Met Thr Arg Glu Leu	
130 135 140	
tgc acg cag atg ctg ggt ggg gcc ctg ggc ctg gcc ctc ttc ccc tcc	480
Cys Thr Gln Met Leu Gly Gly Ala Leu Gly Leu Ala Leu Phe Pro Ser	
145 150 155 160	
ctg cag ctc acc gcc tta atc ttc acc ctg ccc ttt tgc ggc cac cac	528
Leu Gln Leu Thr Ala Leu Ile Phe Thr Leu Pro Phe Cys Gly His His	
165 170 175	
cag gaa atc aac cac ttc ctc tgc gat gtg cct ccc gtc ctg cgc ctg	576
Gln Glu Ile Asn His Phe Leu Cys Asp Val Pro Pro Val Leu Arg Leu	
180 185 190	
gcc tgc gct gac atc cgc gtg cac cag gct gtc ctc tat gtc gtg agc	624
Ala Cys Ala Asp Ile Arg Val His Gln Ala Val Leu Tyr Val Val Ser	
195 200 205	
atc ctc gtg ctg acc atc ccc ttc ctg ctc atc tgc gtc tcc tac gtg	672
Ile Leu Val Leu Thr Ile Pro Phe Leu Leu Ile Cys Val Ser Tyr Val	
210 215 220	
ttc atc acc tgt gcc atc ctg agc atc cgt tct gcc gag ggc cgc cgc	720
Phe Ile Thr Cys Ala Ile Leu Ser Ile Arg Ser Ala Glu Gly Arg Arg	
225 230 235 240	
cgg gcc ttc tcc acc tgc tcc ttc cac ctc acc gtg gtc ctg ctg cag	768
Arg Ala Phe Ser Thr Cys Ser Phe His Leu Thr Val Val Leu Leu Gln	
245 250 255	
tat ggc tgc tgc agc ctc gtg tac ctg cgt cct cgg tcc agc acc tca	816
Tyr Gly Cys Cys Ser Leu Val Tyr Leu Arg Pro Arg Ser Ser Thr Ser	
260 265 270	
gag gat gag gac agc caa atc gcg ttg gtc tac acc ttt gtc acc ccc	864
Glu Asp Glu Asp Ser Gln Ile Ala Leu Val Tyr Thr Phe Val Thr Pro	
275 280 285	
tta ctc aac cct ttg ctt tac agc ctt agg aac aag gat gtc aaa ggt	912
Leu Leu Asn Pro Leu Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly	
290 295 300	
gct ctg agg agt gcc att atc cgt aaa gca gcc tct gac gcc aac tga	960
Ala Leu Arg Ser Ala Ile Ile Arg Lys Ala Ala Ser Asp Ala Asn	
305 310 315	

<210> 28  
 <211> 319  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 28

Met Pro Val Gly Lys Leu Val Phe Asn Gln Ser Glu Pro Thr Glu Phe  
1 5 10 15

Val Phe Arg Ala Phe Thr Thr Ala Thr Glu Phe Gln Val Leu Leu Phe  
20 25 30

Leu Leu Phe Leu Leu Leu Tyr Leu Met Ile Leu Cys Gly Asn Thr Ala  
35 40 45

Ile Ile Trp Val Val Cys Thr His Ser Thr Leu Arg Thr Pro Met Tyr  
50 55 60

Phe Phe Leu Ser Asn Leu Ser Phe Leu Glu Leu Cys Tyr Thr Thr Val  
65 70 75 80

Val Val Pro Leu Met Leu Ser Asn Ile Leu Gly Ala Gln Lys Pro Ile  
85 90 95

Ser Leu Ala Gly Cys Gly Ala Gln Met Phe Phe Phe Val Thr Leu Gly  
100 105 110

Ser Thr Asp Cys Phe Leu Leu Ala Ile Met Ala Tyr Asp Arg Tyr Val  
115 120 125

Ala Ile Cys His Pro Leu His Tyr Thr Leu Ile Met Thr Arg Glu Leu  
130 135 140

Cys Thr Gln Met Leu Gly Gly Ala Leu Gly Leu Ala Leu Phe Pro Ser  
145 150 155 160

Leu Gln Leu Thr Ala Leu Ile Phe Thr Leu Pro Phe Cys Gly His His  
165 170 175

Gln Glu Ile Asn His Phe Leu Cys Asp Val Pro Pro Val Leu Arg Leu  
180 185 190

Ala Cys Ala Asp Ile Arg Val His Gln Ala Val Leu Tyr Val Val Ser  
195 200 205

Ile Leu Val Leu Thr Ile Pro Phe Leu Leu Ile Cys Val Ser Tyr Val  
210 215 220

Phe Ile Thr Cys Ala Ile Leu Ser Ile Arg Ser Ala Glu Gly Arg Arg  
225 230 235 240

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Met	Lys	Thr	Leu	Cys	Ser	Phe	Leu	Gln	Ile	Ser	Arg	Asn	Met	His	Gln	
1				5					10					15		
gaa	aac	caa	acc	acc	atc	act	gaa	ttc	att	ctc	ctg	gga	ctc	tcc	aac	96
Glu	Asn	Gln	Thr	Thr	Ile	Thr	Glu	Phe	Ile	Leu	Leu	Gly	Leu	Ser	Asn	
			20					25					30			
cag	gct	gaa	cat	caa	aac	ctc	ctc	ttt	gtg	ctt	ttc	ctg	agt	atg	tat	144
Gln	Ala	Glu	His	Gln	Asn	Leu	Leu	Phe	Val	Leu	Phe	Leu	Ser	Met	Tyr	
		35					40					45				
gtg	gtc	act	gtg	gtt	ggg	aac	ggg	ctc	atc	att	gtg	gct	atc	agc	ttg	192
Val	Val	Thr	Val	Val	Gly	Asn	Gly	Leu	Ile	Ile	Val	Ala	Ile	Ser	Leu	
	50					55					60					
gat	ata	tac	ctt	cac	acc	ccc	atg	tat	ctc	ttc	ctt	gcc	tac	cta	tcc	240
Asp	Ile	Tyr	Leu	His	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Ala	Tyr	Leu	Ser	
65					70					75					80	
ttt	gct	gat	att	tcc	tcc	att	tcc	aac	tca	gtc	ccc	aaa	atg	ctg	gtg	288
Phe	Ala	Asp	Ile	Ser	Ser	Ile	Ser	Asn	Ser	Val	Pro	Lys	Met	Leu	Val	
				85					90					95		
aat	att	caa	acc	aac	agc	caa	tcc	atc	tct	tat	gag	agc	tgc	atc	aca	336
Asn	Ile	Gln	Thr	Asn	Ser	Gln	Ser	Ile	Ser	Tyr	Glu	Ser	Cys	Ile	Thr	
			100					105					110			



cag atg tac ttt tct att gtg ttt gtc gtc act gac aat ttg ctt ttg 384  
 Gln Met Tyr Phe Ser Ile Val Phe Val Val Thr Asp Asn Leu Leu Leu  
 115 120 125

ggg acc atg gcc ttc gac cac ttt gtg gcg atc tgc cac cct ctg aac 432  
 Gly Thr Met Ala Phe Asp His Phe Val Ala Ile Cys His Pro Leu Asn  
 130 135 140

tat aca act ttc atg cgg gcc agg ttc ggc act ttg ctc aca gtc atc 480  
 Tyr Thr Thr Phe Met Arg Ala Arg Phe Gly Thr Leu Leu Thr Val Ile  
 145 150 155 160

tcg tgg ttc ctc agt aat att att gct ctt aca cac acc ctt ctg ctc 528  
 Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr Leu Leu Leu  
 165 170 175

att caa ttg ctc ttc tgt gac cac aac act ctc cca cac ttc ttc tgt 576  
 Ile Gln Leu Leu Phe Cys Asp His Asn Thr Leu Pro His Phe Phe Cys  
 180 185 190

gac ttg gcc cct ctg ctc aaa ctg tcc tgt tca gat aca atg atc aat 624  
 Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr Met Ile Asn  
 195 200 205

gag ctt gtg ttg ttt att gtg ggt tta tca gtt atc atc ttc ccc ttt 672  
 Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile Phe Pro Phe  
 210 215 220

gta ctc atc ttc ttc tcc tat gtc tgc atc atc aga gct gtc ctg gga 720  
 Val Leu Ile Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala Val Leu Gly  
 225 230 235 240

gta tca tcc aca cag gga aag tgg aaa gcc ttc tcc act tgt ggc tct 768  
 Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr Cys Gly Ser  
 245 250 255

cac ctg aca att gca tta ctg ttc tac gga acc act gta ggc gtg tac 816  
 His Leu Thr Ile Ala Leu Leu Phe Tyr Gly Thr Thr Val Gly Val Tyr  
 260 265 270

ttt ttc ccc tcc tcc act cac cct gag gac act gat aag att ggt gct 864  
 Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys Ile Gly Ala  
 275 280 285

gtc cta ttc act gtg gtg aca ccc atg atg aac ccc ttc atc tac agc 912  
 Val Leu Phe Thr Val Val Thr Pro Met Met Asn Pro Phe Ile Tyr Ser  
 290 295 300

ttg agg aat aag gat atg aaa ggt gcc ctg aga aag ctc atc aat aga 960  
 Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Arg Lys Leu Ile Asn Arg  
 305 310 315 320

aaa att tct tcc ctt tga 978  
 Lys Ile Ser Ser Leu  
 325

<210> 30  
 <211> 325  
 <212> PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 30

Met Lys Thr Leu Cys Ser Phe Leu Gln Ile Ser Arg Asn Met His Gln  
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Glu Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly Leu Ser Asn  
 20 25 30

Gln Ala Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu Ser Met Tyr  
 35 40 45

Val Val Thr Val Val Gly Asn Gly Leu Ile Ile Val Ala Ile Ser Leu  
 50 55 60

Asp Ile Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala Tyr Leu Ser  
 65 70 75 80

Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys Met Leu Val  
 85 90 95

Asn Ile Gln Thr Asn Ser Gln Ser Ile Ser Tyr Glu Ser Cys Ile Thr  
 100 105 110

Gln Met Tyr Phe Ser Ile Val Phe Val Val Thr Asp Asn Leu Leu Leu  
 115 120 125

Gly Thr Met Ala Phe Asp His Phe Val Ala Ile Cys His Pro Leu Asn  
 130 135 140

Tyr Thr Thr Phe Met Arg Ala Arg Phe Gly Thr Leu Leu Thr Val Ile  
 145 150 155 160

Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr Leu Leu Leu  
 165 170 175

Ile Gln Leu Leu Phe Cys Asp His Asn Thr Leu Pro His Phe Phe Cys  
 180 185 190

Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr Met Ile Asn  
 195 200 205

Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile Phe Pro Phe  
 210 215 220

Val Leu Ile Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala Val Leu Gly

225		230		235		240
Val Ser Ser Thr	Gln Gly Lys Trp Lys	Ala Phe Ser Thr	Cys Gly Ser			
	245	250	255			
His Leu Thr	Ile Ala Leu Leu Phe	Tyr Gly Thr Thr	Val Gly Val Tyr			
	260	265	270			
Phe Phe Pro Ser Ser Thr	His Pro Glu Asp Thr	Asp Lys Ile Gly Ala				
	275	280	285			
Val Leu Phe Thr Val Val	Thr Pro Met Met Asn	Pro Phe Ile Tyr Ser				
	290	295	300			
Leu Arg Asn Lys Asp Met	Lys Gly Ala Leu Arg	Lys Leu Ile Asn Arg				
305	310	315	320			
Lys Ile Ser Ser Leu						
	325					

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 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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atg gcc aag aat aat ctc acc aga gta acc gaa ttc att ctc atg ggc	48
Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly	
1 5 10 15	
ttt atg gac cac ccc aaa ttg gag att ccc ctc ttt ctg gtg ttt ctg	96
Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu	
20 25 30	
agt ttc tac cta gtc acc ctt ctt ggg aat gtg ggg atg att atg tta	144
Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu	
35 40 45	
atc caa gta gat gtc aaa ctc tac acc cca atg tac ttc ttc ctg agc	192
Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
cac ctc tcc ctg ctg gat gcc tgt tac acc tca gtc atc acc cct cag	240
His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln	
65 70 75 80	
atc cta gcc aca ttg gcc aca ggc aaa acg gtc atc tcc tac ggc cac	288
Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His	

85										90					95					
tgt	gct	gcc	cag	ttc	ttt	tta	ttc	acc	atc	tgt	gca	ggc	aca	gag	tgc	336				
Cys	Ala	Ala	Gln	Phe	Phe	Leu	Phe	Thr	Ile	Cys	Ala	Gly	Thr	Glu	Cys					
			100					105					110							
ttt	ctg	ctg	gca	gtg	atg	gcc	tat	gat	cgc	tat	gct	gcc	att	cgc	aac	384				
Phe	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Ile	Arg	Asn					
			115				120					125								
cca	ctg	ctc	tat	acc	gtg	gcc	atg	aat	ccc	agg	ctc	tgc	tgg	agc	ctg	432				
Pro	Leu	Leu	Tyr	Thr	Val	Ala	Met	Asn	Pro	Arg	Leu	Cys	Trp	Ser	Leu					
			130				135					140								
gtg	gta	gga	gcc	tat	gtc	tgt	ggg	gtg	tca	gga	gcc	atc	ctg	cgt	acc	480				
Val	Val	Gly	Ala	Tyr	Val	Cys	Gly	Val	Ser	Gly	Ala	Ile	Leu	Arg	Thr					
145					150					155					160					
act	tgc	acc	ttc	acc	ctc	tcc	ttc	tgt	aag	gac	aat	caa	ata	aac	ttc	528				
Thr	Cys	Thr	Phe	Thr	Leu	Ser	Phe	Cys	Lys	Asp	Asn	Gln	Ile	Asn	Phe					
				165					170					175						
ttc	ttc	tgt	gac	ctc	cca	ccc	ctg	ctg	aag	ctt	gcc	tgc	agt	gac	aca	576				
Phe	Phe	Cys	Asp	Leu	Pro	Pro	Leu	Leu	Lys	Leu	Ala	Cys	Ser	Asp	Thr					
			180				185						190							
gca	aac	atc	gag	att	gtc	atc	atc	ttc	ttt	ggc	aat	ttt	gtg	att	ttg	624				
Ala	Asn	Ile	Glu	Ile	Val	Ile	Ile	Phe	Phe	Gly	Asn	Phe	Val	Ile	Leu					
			195				200					205								
gcc	aat	gcc	tcc	gtc	atc	ctg	att	tcc	tat	ctg	ctc	atc	atc	aag	acc	672				
Ala	Asn	Ala	Ser	Val	Ile	Leu	Ile	Ser	Tyr	Leu	Leu	Ile	Ile	Lys	Thr					
			210				215					220								
att	ttg	aaa	gtg	aag	tct	tca	ggg	ggc	agg	gcc	aag	act	ttc	tcc	aca	720				
Ile	Leu	Lys	Val	Lys	Ser	Ser	Gly	Gly	Arg	Ala	Lys	Thr	Phe	Ser	Thr					
225					230					235					240					
tgt	gcc	tct	cac	atc	act	gct	gtg	gcc	ctt	ttc	ttt	gga	gcc	ctt	atc	768				
Cys	Ala	Ser	His	Ile	Thr	Ala	Val	Ala	Leu	Phe	Phe	Gly	Ala	Leu	Ile					
				245					250					255						
ttc	atg	tat	ctg	caa	agt	ggc	tca	ggc	aaa	tct	ctg	gag	gaa	gac	aaa	816				
Phe	Met	Tyr	Leu	Gln	Ser	Gly	Ser	Gly	Lys	Ser	Leu	Glu	Glu	Asp	Lys					
			260					265					270							
gtc	gtg	tct	gtc	ttc	tat	aca	gtg	gtc	atc	ccc	atg	ctg	aac	cct	ctg	864				
Val	Val	Ser	Val	Phe	Tyr	Thr	Val	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu					
			275				280						285							
atc	tac	agc	tta	aga	aac	aaa	gat	gta	aaa	gac	gcc	ttc	aga	aag	gtc	912				
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Asp	Ala	Phe	Arg	Lys	Val					
			290				295				300									
gct	agg	aga	ctc	cag	gtg	tcc	ctg	agc	atg	tag						945				
Ala	Arg	Arg	Leu	Gln	Val	Ser	Leu	Ser	Met											
305					310															

&lt;210&gt; 32

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 32

Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly  
 1 5 10 15

Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30

Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu  
 35 40 45

Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln  
 65 70 75 80

Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His  
 85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Cys  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn  
 115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu  
 130 135 140

Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr  
 145 150 155 160

Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe  
 165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr  
 180 185 190

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu  
 195 200 205

Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr  
 210 215 220

Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile  
 245 250 255

Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys  
 260 265 270

Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val  
 290 295 300

Ala Arg Arg Leu Gln Val Ser Leu Ser Met  
 305 310

<210> 33  
 <211> 876  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (873)  
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Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala	
1 5 10 15	
ttc cct tat tcc tgg gtt aag tct gtt gtc tgc ttt gtt cca ctg ctc	96
Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu	
20 25 30	
ttc atc tat gct ttc att gtt gtt gga aac ctg gtc atc atc aca gtg	144
Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val	
35 40 45	
gtc cag ttg aat act cac ctc cac act ccc atg tat act ttt atc agt	192
Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser	
50 55 60	
gct ctt tct ttc ctg gag att tgg tat acc aca gcc aca atc cca aag	240
Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys	
65 70 75 80	
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt	288
Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys	
85 90 95	
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt	336

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys  
 100 105 110  
 ctc ttg aca gtt atg gcc ttt gac cac tac ctg gcc ata tgc agc cct 384  
 Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro  
 115 120 125  
 ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act 432  
 Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr  
 130 135 140  
 tta agt tgc tgt gtt tgt ggc ttt atc aca ccc ctt cct gag att gcc 480  
 Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala  
 145 150 155 160  
 tgg atc tct aca ctg cca ttt tgt ggt tgc aat cac ctt gaa cat atc 528  
 Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile  
 165 170 175  
 ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga 576  
 Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg  
 180 185 190  
 gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att 624  
 Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile  
 195 200 205  
 att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct 672  
 Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala  
 210 215 220  
 gta att cta cgt att cat tca gct gga ggc cgc cgg cac agc att ttc 720  
 Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg His Ser Ile Phe  
 225 230 235 240  
 cac gtg tgt ctc tca ctt cat tgt ctt ttc gct ctt ctt tgg cag tgt 768  
 His Val Cys Leu Ser Leu His Cys Leu Phe Ala Leu Leu Trp Gln Cys  
 245 250 255  
 gac tct cat gta cct acg ctt ctc tgc cac cta ctc ttt gtt ctg gga 816  
 Asp Ser His Val Pro Thr Leu Leu Cys His Leu Leu Phe Val Leu Gly  
 260 265 270  
 tat agc cat tgc tct ggc ctt tgc agt ttt gtc tcc ctt ctt caa ccc 864  
 Tyr Ser His Cys Ser Gly Leu Cys Ser Phe Val Ser Leu Leu Gln Pro  
 275 280 285  
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 His Tyr Leu  
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 <213> Homo Sapiens  
 <400> 34  
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Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu  
 20 25 30

Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val  
 35 40 45

Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser  
 50 55 60

Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys  
 65 70 75 80

Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys  
 85 90 95

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys  
 100 105 110

Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro  
 115 120 125

Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr  
 130 135 140

Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala  
 145 150 155 160

Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile  
 165 170 175

Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg  
 180 185 190

Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile  
 195 200 205

Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala  
 210 215 220

Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg His Ser Ile Phe  
 225 230 235 240

His Val Cys Leu Ser Leu His Cys Leu Phe Ala Leu Leu Trp Gln Cys  
 245 250 255



Asp Ser His Val Pro Thr Leu Leu Cys His Leu Leu Phe Val Leu Gly  
 260 265 270

Tyr Ser His Cys Ser Gly Leu Cys Ser Phe Val Ser Leu Leu Gln Pro  
 275 280 285

His Tyr Leu  
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 1 5 10 15  
 ttc ccc cat ctc cag ggt gtc cag att tat ctc ttc ctc ttg ttg ctt 96  
 Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu Leu  
 20 25 30  
 ctc att tac ctc atg act gtg ttg gga aac ctg ctg ata ttc ctg gtg 144  
 Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val  
 35 40 45  
 gtc tgc ctg gac tcc cgg ctt cac aca ccc atg tac cac ttt gtc agc 192  
 Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser  
 50 55 60  
 att ctc tcc ttc tca gag ctt ggc tat aca gct gcc acc atc cct aag 240  
 Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys  
 65 70 75 80  
 atg ctg gca aac ttg ctc agt gag aaa aag acc att tca ttc tct ggg 288  
 Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly  
 85 90 95  
 tgt ctc ctg cag atc tat ttc ttt cac tcc ctt gga gcg act gag tgc 336  
 Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys  
 100 105 110  
 tat ctc ctg aca gct atg gcc tac gat agg tat tta gcc atc tgc cgg 384  
 Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg  
 115 120 125  
 ccc ctc cac tac cca acc ctc atg acc cca aca ctt tgt gca gag att 432  
 Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile  
 130 135 140

gcc att ggc tgt tgg ttg gga ggc ttg gct ggg cca gta gtt gaa att 480  
 Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile  
 145 150 155 160  
 tcc ttg att tca cgc ctc cca ttc tgt ggc ccc aat cgc att cag cac 528  
 Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His  
 165 170 175  
 gtc ttt tgt gac ttc cct cct gtg ctg agt ttg gct tgc act gat acg 576  
 Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
 180 185 190  
 tct ata aat gtc cta gta gat ttt gtt ata aat tcc tgc aag atc cta 624  
 Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu  
 195 200 205  
 gcc acc ttc ctg ctg atc ctc tgc tcc tat gtg cag atc atc tgc aca 672  
 Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr  
 210 215 220  
 gtg ctc aga att ccc tca gct gcc ggc aag agg aag gcc atc tcc acg 720  
 Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr  
 225 230 235 240  
 tgt gcc tcc cac ttc act gtg gtt ctc atc ttc tat ggg agc atc ctt 768  
 Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu  
 245 250 255  
 tcc atg tat gtg cag ctg aag aag agc tac tca ctg gac tat gac cag 816  
 Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln  
 260 265 270  
 gcc ctg gca gtg gtc tac tca gtg ctc aca ccc ttc ctc aac ccc ttc 864  
 Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe  
 275 280 285  
 atc tac agc ttg cgc aac aag gag atc aag gag gct gtg agg agg cag 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln  
 290 295 300  
 cta aag aga att ggg ata ttg gca tga 939  
 Leu Lys Arg Ile Gly Ile Leu Ala  
 305 310

<210> 36  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 36

Met Asp Thr Gly Asn Trp Ser Gln Val Ala Glu Phe Ile Ile Leu Gly  
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Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu  
20 25 30

Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val

35                                      40                                      45  
 Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser  
     50                                      55                                      60  
 Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys  
     65                                      70                                      75                                      80  
 Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly  
                                     85                                      90                                      95  
 Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys  
                                     100                                      105                                      110  
 Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg  
                                     115                                      120                                      125  
 Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile  
                                     130                                      135                                      140  
 Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile  
     145                                      150                                      155                                      160  
 Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His  
                                     165                                      170                                      175  
 Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
                                     180                                      185                                      190  
 Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu  
                                     195                                      200                                      205  
 Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr  
                                     210                                      215                                      220  
 Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr  
     225                                      230                                      235                                      240  
 Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu  
                                     245                                      250                                      255  
 Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln  
                                     260                                      265                                      270  
 Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe  
                                     275                                      280                                      285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln  
 290 295 300

Leu Lys Arg Ile Gly Ile Leu Ala  
 305 310

<210> 37  
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 <212> DNA  
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 1 5 10 15  
 ctt tca cag gac ttg cag acc cag atc ctg cta ttt atc ctt ttc ctc 96  
 Leu Ser Gln Asp Leu Gln Thr Gln Ile Leu Leu Phe Ile Leu Phe Leu  
 20 25 30  
 atc att tat ctg ctg acc gtg ctt gga aac cag ctc atc atc att ctc 144  
 Ile Ile Tyr Leu Leu Thr Val Leu Gly Asn Gln Leu Ile Ile Ile Leu  
 35 40 45  
 atc ttc ctg gat tct cgc ctt cac act ccc atg tat ttt ttt ctt aga 192  
 Ile Phe Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
 50 55 60  
 aat ctc tcc ttt gca gat ctc tgt ttc tct act agc att gtc cct caa 240  
 Asn Leu Ser Phe Ala Asp Leu Cys Phe Ser Thr Ser Ile Val Pro Gln  
 65 70 75 80  
 gtg ttg gtt cac ttc ttg gta aag agg aaa acc att tct ttt tat ggg 288  
 Val Leu Val His Phe Leu Val Lys Arg Lys Thr Ile Ser Phe Tyr Gly  
 85 90 95  
 tgt atg aca cag ata att gtc ttt ctt ctg gtt ggg tgt aca gag tgt 336  
 Cys Met Thr Gln Ile Ile Val Phe Leu Leu Val Gly Cys Thr Glu Cys  
 100 105 110  
 gcg ctg ctg gca gtg atg tcc tat gac cgg tat gtg gct gtc tgc aag 384  
 Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Lys  
 115 120 125  
 ccc ctg tac tac tct acc atc atg aca caa cgg gtg tgt ctc tgg ctg 432  
 Pro Leu Tyr Tyr Ser Thr Ile Met Thr Gln Arg Val Cys Leu Trp Leu  
 130 135 140  
 tcc ttc agg tcc tgg gcc agt ggg gca cta gtg tct tta gta gat acc 480  
 Ser Phe Arg Ser Trp Ala Ser Gly Ala Leu Val Ser Leu Val Asp Thr  
 145 150 155 160

agc ttt act ttc cat ctt ccc tac tgg gga cag aat ata atc aat cac 528  
 Ser Phe Thr Phe His Leu Pro Tyr Trp Gly Gln Asn Ile Ile Asn His  
 165 170 175  
 tac ttt tgt gaa cct cct gcc ctc ctg aag ctg gct tcc ata gac act 576  
 Tyr Phe Cys Glu Pro Pro Ala Leu Leu Lys Leu Ala Ser Ile Asp Thr  
 180 185 190  
 tac agc aca gaa atg gcc atc ttt tca atg ggc gtg gta atc ctc ctg 624  
 Tyr Ser Thr Glu Met Ala Ile Phe Ser Met Gly Val Val Ile Leu Leu  
 195 200 205  
 gcc cct gtc tcc ctg att ctt ggt tct tat tgg aat att atc tcc act 672  
 Ala Pro Val Ser Leu Ile Leu Gly Ser Tyr Trp Asn Ile Ile Ser Thr  
 210 215 220  
 gtt atc cag atg cag tct ggg gaa ggg aga ctc aag gct ttt tcc acc 720  
 Val Ile Gln Met Gln Ser Gly Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240  
 tgt ggc tcc cat ctt att gtt gtt gtc ctc ttc tat ggg tca gga ata 768  
 Cys Gly Ser His Leu Ile Val Val Val Leu Phe Tyr Gly Ser Gly Ile  
 245 250 255  
 ttc acc tac atg cga cca aac tcc aag act aca aaa gaa ctg gat aaa 816  
 Phe Thr Tyr Met Arg Pro Asn Ser Lys Thr Thr Lys Glu Leu Asp Lys  
 260 265 270  
 atg ata tct gtg ttc tat aca gcg gtg act cca atg ttg aac ccc ata 864  
 Met Ile Ser Val Phe Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Ile  
 275 280 285  
 att tat agc ttg agg aac aaa gat gtc aaa ggg gct ctc agg aaa cta 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Arg Lys Leu  
 290 295 300  
 gtt ggg aga aag tgc ttc tct cat agg cag tga 945  
 Val Gly Arg Lys Cys Phe Ser His Arg Gln  
 305 310

<210> 38  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 38

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Leu Ser Gln Asp Leu Gln Thr Gln Ile Leu Leu Phe Ile Leu Phe Leu  
20 25 30

Ile Ile Tyr Leu Leu Thr Val Leu Gly Asn Gln Leu Ile Ile Ile Leu  
35 40 45

Ile Phe Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
 50 55 60

Asn Leu Ser Phe Ala Asp Leu Cys Phe Ser Thr Ser Ile Val Pro Gln  
 65 70 75 80

Val Leu Val His Phe Leu Val Lys Arg Lys Thr Ile Ser Phe Tyr Gly  
 85 90 95

Cys Met Thr Gln Ile Ile Val Phe Leu Leu Val Gly Cys Thr Glu Cys  
 100 105 110

Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Lys  
 115 120 125

Pro Leu Tyr Tyr Ser Thr Ile Met Thr Gln Arg Val Cys Leu Trp Leu  
 130 135 140

Ser Phe Arg Ser Trp Ala Ser Gly Ala Leu Val Ser Leu Val Asp Thr  
 145 150 155 160

Ser Phe Thr Phe His Leu Pro Tyr Trp Gly Gln Asn Ile Ile Asn His  
 165 170 175

Tyr Phe Cys Glu Pro Pro Ala Leu Leu Lys Leu Ala Ser Ile Asp Thr  
 180 185 190

Tyr Ser Thr Glu Met Ala Ile Phe Ser Met Gly Val Val Ile Leu Leu  
 195 200 205

Ala Pro Val Ser Leu Ile Leu Gly Ser Tyr Trp Asn Ile Ile Ser Thr  
 210 215 220

Val Ile Gln Met Gln Ser Gly Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ile Val Val Val Leu Phe Tyr Gly Ser Gly Ile  
 245 250 255

Phe Thr Tyr Met Arg Pro Asn Ser Lys Thr Thr Lys Glu Leu Asp Lys  
 260 265 270

Met Ile Ser Val Phe Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Ile  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Arg Lys Leu

290

295

300

Val Gly Arg Lys Cys Phe Ser His Arg Gln  
305 310

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<212> DNA  
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<222> (1)..(915)  
<223>

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cag att cct ctc ttc ctt gtg ttt ctg ctc atg tat gtt atc aca gtg 96  
Gln Ile Pro Leu Phe Leu Val Phe Leu Leu Met Tyr Val Ile Thr Val  
20 25 30  
gta gga aac ctt ggg atg atc ata ata atc aag att aac ccc aaa ttt 144  
Val Gly Asn Leu Gly Met Ile Ile Ile Ile Lys Ile Asn Pro Lys Phe  
35 40 45  
cac act cct atg tac ttt ttc ctt agt cac ctc tct ttt gtt gat ttt 192  
His Thr Pro Met Tyr Phe Phe Leu Ser His Leu Ser Phe Val Asp Phe  
50 55 60  
tgt tac tct tcc att gtc act ccc aag ctg ctt gag aac ttg gta atg 240  
Cys Tyr Ser Ser Ile Val Thr Pro Lys Leu Leu Glu Asn Leu Val Met  
65 70 75 80  
gca gat aaa agc atc ttc tac ttt agc tgc atg atg cag tac ttc ctg 288  
Ala Asp Lys Ser Ile Phe Tyr Phe Ser Cys Met Met Gln Tyr Phe Leu  
85 90 95  
tcc tgc act gct gtg gtg aca gag tct ttc ttg ctg gca gtg atg gcc 336  
Ser Cys Thr Ala Val Val Thr Glu Ser Phe Leu Leu Ala Val Met Ala  
100 105 110  
tat gac cgc ttt gtg gcc atc tgc aat cct ctg ctt tat aca gtg gcc 384  
Tyr Asp Arg Phe Val Ala Ile Cys Asn Pro Leu Leu Tyr Thr Val Ala  
115 120 125  
atg tca cag agg ctc tgt gcc ctg ctg gtg gct ggg tca tat ctc tgg 432  
Met Ser Gln Arg Leu Cys Ala Leu Leu Val Ala Gly Ser Tyr Leu Trp  
130 135 140  
ggc atg ttt ggc ccc ttg gta ctc ctt tgt tat gct ctc cgg tta aac 480  
Gly Met Phe Gly Pro Leu Val Leu Leu Cys Tyr Ala Leu Arg Leu Asn  
145 150 155 160  
ttc tct gga cct aat gta atc aac cac ttc ttt tgt gag tat act gct 528  
Phe Ser Gly Pro Asn Val Ile Asn His Phe Phe Cys Glu Tyr Thr Ala

<400> 40

His Thr Pro Met Tyr Phe Phe Leu Ser His Leu Ser Phe Val Asp Phe  
50 55 60



Cys Tyr Ser Ser Ile Val Thr Pro Lys Leu Leu Glu Asn Leu Val Met  
65 70 75 80

Ala Asp Lys Ser Ile Phe Tyr Phe Ser Cys Met Met Gln Tyr Phe Leu  
85 90 95

Ser Cys Thr Ala Val Val Thr Glu Ser Phe Leu Leu Ala Val Met Ala  
100 105 110

Tyr Asp Arg Phe Val Ala Ile Cys Asn Pro Leu Leu Tyr Thr Val Ala  
115 120 125

Met Ser Gln Arg Leu Cys Ala Leu Leu Val Ala Gly Ser Tyr Leu Trp  
130 135 140

Gly Met Phe Gly Pro Leu Val Leu Leu Cys Tyr Ala Leu Arg Leu Asn  
145 150 155 160

Phe Ser Gly Pro Asn Val Ile Asn His Phe Phe Cys Glu Tyr Thr Ala  
165 170 175

Leu Ile Ser Val Ser Gly Ser Asp Ile Leu Ile Pro His Leu Leu Leu  
180 185 190

Phe Ser Phe Ala Thr Phe Asn Glu Met Cys Thr Leu Leu Ile Ile Leu  
195 200 205

Thr Ser Tyr Val Phe Ile Phe Val Thr Val Leu Lys Ile Arg Ser Val  
210 215 220

Ser Gly Arg His Lys Ala Phe Ser Thr Trp Ala Ser His Leu Thr Ala  
225 230 235 240

Ile Thr Ile Phe His Gly Thr Ile Leu Phe Leu Tyr Cys Val Pro Asn  
245 250 255

Ser Lys Asn Ser Arg Gln Thr Val Lys Val Ala Ser Val Phe Tyr Thr  
260 265 270

Val Val Asn Pro Met Leu Asn Pro Pro Ile Tyr Ser Leu Arg Asn Lys  
275 280 285

Asp Val Lys Asp Ala Phe Trp Lys Leu Ile His Thr Gln Val Pro Phe  
290 295 300

His  
305

<210> 41  
<211> 930  
<212> DNA  
<213> Homo Sapiens  
  
<220>  
<221> CDS  
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Met Glu Asn Gln Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
1          5          10          15

gag aac ctg gag ctg tgg aaa ata ttt tct gct gtg ttt ctt gtc atg      96
Glu Asn Leu Glu Leu Trp Lys Ile Phe Ser Ala Val Phe Leu Val Met
          20          25          30

tat gta gcc aca gtg ctg gaa aat cta ctt att gtg gta act att atc      144
Tyr Val Ala Thr Val Leu Glu Asn Leu Leu Ile Val Val Thr Ile Ile
          35          40          45

aca agt cag agt ctg agg tca cct atg tat ttt ttt ctt acc ttc ttg      192
Thr Ser Gln Ser Leu Arg Ser Pro Met Tyr Phe Phe Leu Thr Phe Leu
          50          55          60

tcc ctt ttg gat gtc atg ttc tca tct gtc gtt gcc ccc aag gtg att      240
Ser Leu Leu Asp Val Met Phe Ser Ser Val Val Ala Pro Lys Val Ile
65          70          75          80

gta gac acc ctc tcc aag agc act acc atc tct ctc aaa ggc tgc ctc      288
Val Asp Thr Leu Ser Lys Ser Thr Thr Ile Ser Leu Lys Gly Cys Leu
          85          90          95

acc cag ctg ttt gtg gag cat ttc ttt ggt ggt gtg ggg atc atc ctc      336
Thr Gln Leu Phe Val Glu His Phe Phe Gly Gly Val Gly Ile Ile Leu
          100          105          110

ctc act gtg atg gcc tat gac cgc tac gtg gcc atc tgt aag ccc ctg      384
Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
          115          120          125

cac tac acg atc atc atg agt cca cgg gtg tgc tgc cta atg gta gga      432
His Tyr Thr Ile Ile Met Ser Pro Arg Val Cys Cys Leu Met Val Gly
          130          135          140

ggg gct tgg gtg ggg gga ttt atg cac gca atg ata caa ctt ctc ttc      480
Gly Ala Trp Val Gly Gly Phe Met His Ala Met Ile Gln Leu Leu Phe
145          150          155          160

atg tat caa ata ccc ttc tgt ggt cct aat atc ata gat cac ttt ata      528
Met Tyr Gln Ile Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Ile
          165          170          175

tgt gat ttg ttt cag ttg ttg aca ctt gcc tgc acg gac acc cac atc      576

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Cys Asp Leu Phe Gln Leu Leu Thr Leu Ala Cys Thr Asp Thr His Ile  
 180 185 190  
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 Leu Gly Leu Leu Val Thr Leu Asn Ser Gly Met Met Cys Val Ala Ile  
 195 200 205  
 ttt ctt atc tta att gcg tcc tac acg gtc atc cta tgc tcc ctg aag 672  
 Phe Leu Ile Leu Ile Ala Ser Tyr Thr Val Ile Leu Cys Ser Leu Lys  
 210 215 220  
 tct tac agc tct aaa ggg cgg cac aaa gcc ctc tct acc tgc agc tcc 720  
 Ser Tyr Ser Ser Lys Gly Arg His Lys Ala Leu Ser Thr Cys Ser Ser  
 225 230 235 240  
 cac ctc acg gtg gtt gta ttg ttc ttt gtc ccc tgt att ttc ttg tac 768  
 His Leu Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr  
 245 250 255  
 atg agg cct gtg gtc act cac ccc ata gac aag gca atg gct gtg tca 816  
 Met Arg Pro Val Val Thr His Pro Ile Asp Lys Ala Met Ala Val Ser  
 260 265 270  
 gac tca atc atc aca ccc atg tta aat ccc ttg atc tat aca ctg agg 864  
 Asp Ser Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285  
 aat gca gag gtg aaa agt gcc atg aag aaa ctc tgg atg aaa tgg gag 912  
 Asn Ala Glu Val Lys Ser Ala Met Lys Lys Leu Trp Met Lys Trp Glu  
 290 295 300  
 gct ttg gct ggg aaa taa 930  
 Ala Leu Ala Gly Lys  
 305  
 <210> 42  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 42  
 Met Glu Asn Gln Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
 1 5 10 15  
 Glu Asn Leu Glu Leu Trp Lys Ile Phe Ser Ala Val Phe Leu Val Met  
 20 25 30  
 Tyr Val Ala Thr Val Leu Glu Asn Leu Leu Ile Val Val Thr Ile Ile  
 35 40 45  
 Thr Ser Gln Ser Leu Arg Ser Pro Met Tyr Phe Phe Leu Thr Phe Leu  
 50 55 60  
 Ser Leu Leu Asp Val Met Phe Ser Ser Val Val Ala Pro Lys Val Ile  
 65 70 75 80

Val Asp Thr Leu Ser Lys Ser Thr Thr Ile Ser Leu Lys Gly Cys Leu  
 85 90 95

Thr Gln Leu Phe Val Glu His Phe Phe Gly Gly Val Gly Ile Ile Leu  
 100 105 110

Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Thr Ile Ile Met Ser Pro Arg Val Cys Cys Leu Met Val Gly  
 130 135 140

Gly Ala Trp Val Gly Gly Phe Met His Ala Met Ile Gln Leu Leu Phe  
 145 150 155 160

Met Tyr Gln Ile Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Ile  
 165 170 175

Cys Asp Leu Phe Gln Leu Leu Thr Leu Ala Cys Thr Asp Thr His Ile  
 180 185 190

Leu Gly Leu Leu Val Thr Leu Asn Ser Gly Met Met Cys Val Ala Ile  
 195 200 205

Phe Leu Ile Leu Ile Ala Ser Tyr Thr Val Ile Leu Cys Ser Leu Lys  
 210 215 220

Ser Tyr Ser Ser Lys Gly Arg His Lys Ala Leu Ser Thr Cys Ser Ser  
 225 230 235 240

His Leu Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr  
 245 250 255

Met Arg Pro Val Val Thr His Pro Ile Asp Lys Ala Met Ala Val Ser  
 260 265 270

Asp Ser Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285

Asn Ala Glu Val Lys Ser Ala Met Lys Lys Leu Trp Met Lys Trp Glu  
 290 295 300

Ala Leu Ala Gly Lys  
 305

<210> 43  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 43  
 atg ggc aag gaa aac tgc acc act gtg gct gag ttc att ctc ctt gga 48  
 Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
 1 5 10 15

cta tca gat gtc cct gag ttg aga gtc tgc ctc ttc ctg ctg ttc ctt 96  
 Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
 20 25 30

ctc atc tat gga gtc acg ttg tta gcc aac ctg ggc atg att gca ctg 144  
 Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Ile Ala Leu  
 35 40 45

att cag gtc agc tct cgg ctc cac acc ccc atg tac ttt ttc ctc agc 192  
 Ile Gln Val Ser Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

cac ttg tcc tct gta gat ttc tgc tac tcc tca ata att gtg cca aaa 240  
 His Leu Ser Ser Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
 65 70 75 80

atg ttg gct aat atc ttt aac aag gac aaa gcc atc tcc ttc cta ggg 288  
 Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly  
 85 90 95

tgc atg gtg caa ttc tac ttg ttt tgc act tgt gtg gtc act gag gtc 336  
 Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Val Val Thr Glu Val  
 100 105 110

ttc ctg ctg gcc gtg atg gcc tat gac cgc ttt gtg gcc atc tgt aac 384  
 Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
 115 120 125

cct ttg cta tac aca gtc acc atg tct tgg aag gtg cgt gtg gag ctg 432  
 Pro Leu Leu Tyr Thr Val Thr Met Ser Trp Lys Val Arg Val Glu Leu  
 130 135 140

gct tct tgc tgc tac ttc tgt ggg acg gtg tgt tct ctg att cat ttg 480  
 Ala Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Leu  
 145 150 155 160

tgc tta gct ctt agg atc ccc ttc tat aga tct aat gtg att aac cac 528  
 Cys Leu Ala Leu Arg Ile Pro Phe Tyr Arg Ser Asn Val Ile Asn His  
 165 170 175

ttt ttc tgt gat cta cct cct gtc tta agt ctt gct tgc tct gat atc 576  
 Phe Phe Cys Asp Leu Pro Pro Val Leu Ser Leu Ala Cys Ser Asp Ile  
 180 185 190

act gtg aat gag aca ctg ctg ttc ctg gtg gcc act ttg aat gag agt 624  
 Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser  
 195 200 205

gtt acc atc atg atc atc ctc acc tcc tac ctg cta att ctc acc acc 672  
 Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr  
 210 215 220

atc ctg aag atg ggc tct gca gag ggc agg cac aaa gcc ttc tcc acc 720  
 Ile Leu Lys Met Gly Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gct tcc cac ctc aca gct atc act gtc ttc cat gga aca gtc ctt 768  
 Cys Ala Ser His Leu Thr Ala Ile Thr Val Phe His Gly Thr Val Leu  
 245 250 255

tcc att tat tgc agg ccc agt tca ggc aat agt gga gat gct gac aaa 816  
 Ser Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Ala Asp Lys  
 260 265 270

gtg gcc acc gtg ttc tac aca gtc gtg att cct atg ctg aac tct gtg 864  
 Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Ser Val  
 275 280 285

atc tac agc ctg aga aat aaa gat gtg aaa gaa gct ctc aga aaa gtg 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Arg Lys Val  
 290 295 300

atg ggc tcc aaa att cac tcc tag 936  
 Met Gly Ser Lys Ile His Ser  
 305 310

<210> 44  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 44

Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
 20 25 30

Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Ile Ala Leu  
 35 40 45

Ile Gln Val Ser Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ser Ser Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
 65 70 75 80

Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly

	85		90		95
Cys Met Val	Gln Phe Tyr Leu Phe	Cys Thr Cys Val Val	Thr Glu Val		
	100	105	110		
Phe Leu Leu	Ala Val Met Ala Tyr Asp Arg	Phe Val Ala Ile Cys Asn			
	115	120	125		
Pro Leu Leu	Tyr Thr Val Thr Met Ser Trp Lys	Val Arg Val Glu Leu			
	130	135	140		
Ala Ser Cys	Cys Tyr Phe Cys Gly Thr Val	Cys Ser Leu Ile His Leu			
	145	150	155		160
Cys Leu Ala	Leu Arg Ile Pro Phe Tyr Arg	Ser Asn Val Ile Asn His			
	165	170	175		
Phe Phe Cys	Asp Leu Pro Pro Val Leu Ser Leu	Ala Cys Ser Asp Ile			
	180	185	190		
Thr Val Asn	Glu Thr Leu Leu Phe Leu Val	Ala Thr Leu Asn Glu Ser			
	195	200	205		
Val Thr Ile	Met Ile Ile Leu Thr Ser Tyr Leu	Leu Ile Leu Thr Thr			
	210	215	220		
Ile Leu Lys	Met Gly Ser Ala Glu Gly Arg His	Lys Ala Phe Ser Thr			
	225	230	235		240
Cys Ala Ser	His Leu Thr Ala Ile Thr Val	Phe His Gly Thr Val Leu			
	245	250	255		
Ser Ile Tyr	Cys Arg Pro Ser Ser Gly Asn Ser	Gly Asp Ala Asp Lys			
	260	265	270		
Val Ala Thr	Val Phe Tyr Thr Val Val Ile Pro	Met Leu Asn Ser Val			
	275	280	285		
Ile Tyr Ser	Leu Arg Asn Lys Asp Val Lys Glu	Ala Leu Arg Lys Val			
	290	295	300		
Met Gly Ser	Lys Ile His Ser				
	305	310			

<210> 45  
 <211> 945

<212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

<400> 45  
 atg atg gca tct gaa aga aat caa agc agc aca ccc act ttt att ctc 48  
 Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu  
 1 5 10 15

ttg ggt ttt tca gaa tac cca gaa atc cag gtt cca ctc ttt ctg gtt 96  
 Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
 20 25 30

ttc ttg ttc gtc tac aca gtc act gta gtg ggg aac ttg ggc atg ata 144  
 Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

ata atc atc aga ctc aat tca aaa ctc cat aca atc atg tac ttt ttc 192  
 Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe  
 50 55 60

ctt agt cac ttg tcc ttg aca gac ttc tgt ttt tcc act gta gtt aca 240  
 Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr  
 65 70 75 80

cct aaa ctg ttg gag aac ttg gtt gtg gaa tac aga acc atc tct ttc 288  
 Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe  
 85 90 95

tct ggt tgc atc atg caa ttt tgt ttt gct tgc att ttt gga gtg aca 336  
 Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr  
 100 105 110

gaa act ttc atg tta gca gcg atg gct tat gac cgt ttt gtg gca gtt 384  
 Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val  
 115 120 125

tgt aaa ccc ttg ctg tat acc act att atg tct cag aag ctc tgt gct 432  
 Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala  
 130 135 140

ctt ctg gtg gct ggg tcc tat aca tgg ggg ata gtg tgc tcc ctg ata 480  
 Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile  
 145 150 155 160

ctc aca tat ttt ctt ctt gac tta tcg ttt tgt gaa tct acc ttc ata 528  
 Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile  
 165 170 175

aat aat ttt atc tgt gac cac tct gta att gtt tct gcc tcc tac tca 576  
 Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser  
 180 185 190

gac ccc tat atc agc cag agg cta tgc ttt att att gcc ata ttc aat 624  
 Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn  
 195 200 205



gag gtg agc agc cta att atc att ctg aca tca tat atg ctt att ttc 672  
 Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
 210 215 220

act acc att atg aag atg cga tct gca agt ggg cgc cag aaa act ttc 720  
 Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe  
 225 230 235 240

tcc acc tgt gcc tcc cac ctg aca gcc atc act atc ttc cat gga act 768  
 Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255

atc ctt ttc ctt tac tgt gtt cct aat cct aaa act tct agc ctc ata 816  
 Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile  
 260 265 270

gtt aca gtg gct tct gtg ttt tac aca gtg gcg att cca atg ctg aac 864  
 Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285

cca ttg atc tac agc ctt agg aac aaa gat atc aat aac atg ttt gaa 912  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300

aaa tta gtt gtc acc aaa ttg att tac cac tga 945  
 Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 46  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 46

Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu  
 1 5 10 15

Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
 20 25 30

Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe  
 50 55 60

Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr  
 65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe  
 85 90 95

Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr  
 100 105 110

Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val  
 115 120 125

Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala  
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile  
 145 150 155 160

Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile  
 165 170 175

Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser  
 180 185 190

Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn  
 195 200 205

Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
 210 215 220

Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe  
 225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile  
 260 265 270

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300

Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 47  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (939)

&lt;223&gt;

&lt;400&gt; 47

atg	ctg	ctg	aca	gat	aga	aat	aca	agt	ggg	acc	acg	ttc	acc	ctc	ttg	48
Met	Leu	Leu	Thr	Asp	Arg	Asn	Thr	Ser	Gly	Thr	Thr	Phe	Thr	Leu	Leu	
1			5						10					15		
ggc	ttc	tca	gat	tac	cca	gaa	ctg	caa	gtc	cca	ctc	ttc	ctg	gtt	ttt	96
Gly	Phe	Ser	Asp	Tyr	Pro	Glu	Leu	Gln	Val	Pro	Leu	Phe	Leu	Val	Phe	
			20					25					30			
ctg	gcc	atc	tac	aat	gtc	act	gtg	cta	ggg	aat	att	ggg	ttg	att	gtg	144
Leu	Ala	Ile	Tyr	Asn	Val	Thr	Val	Leu	Gly	Asn	Ile	Gly	Leu	Ile	Val	
			35				40					45				
atc	atc	aaa	atc	aac	ccc	aaa	ctg	cat	acc	ccc	atg	tac	ttt	ttc	ctc	192
Ile	Ile	Lys	Ile	Asn	Pro	Lys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	
		50				55					60					
agc	caa	ctc	tcc	ttt	gtg	gat	ttc	tgc	tat	tcc	tcc	atc	att	gct	ccc	240
Ser	Gln	Leu	Ser	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Ile	Ala	Pro	
65					70				75					80		
aag	atg	ttg	gtg	aac	ctt	gtt	gtc	aaa	gac	aga	acc	att	tca	ttt	tta	288
Lys	Met	Leu	Val	Asn	Leu	Val	Val	Lys	Asp	Arg	Thr	Ile	Ser	Phe	Leu	
				85					90					95		
gga	tgc	gta	gta	caa	ttc	ttt	ttc	ttc	tgt	acc	ttt	gtg	gtc	act	gaa	336
Gly	Cys	Val	Val	Gln	Phe	Phe	Phe	Phe	Cys	Thr	Phe	Val	Val	Thr	Glu	
			100					105					110			
tcc	ttt	tta	tta	gct	gtg	atg	gcc	tat	gac	cgc	ttc	gtg	gcc	att	tgc	384
Ser	Phe	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Phe	Val	Ala	Ile	Cys	
		115					120					125				
aac	cct	ctg	ctc	tac	aca	gtt	gac	atg	tcc	cag	aaa	ctc	tgc	gtg	ctg	432
Asn	Pro	Leu	Leu	Tyr	Thr	Val	Asp	Met	Ser	Gln	Lys	Leu	Cys	Val	Leu	
		130				135					140					
ctg	gtt	gtg	gga	tcc	tat	gcc	tgg	gga	gtc	tca	tgt	tcc	ttg	gaa	ctg	480
Leu	Val	Val	Gly	Ser	Tyr	Ala	Trp	Gly	Val	Ser	Cys	Ser	Leu	Glu	Leu	
145					150					155				160		
acg	tgc	tct	gct	tta	aag	tta	tgt	ttt	cat	ggg	ttc	aac	aca	atc	aat	528
Thr	Cys	Ser	Ala	Leu	Lys	Leu	Cys	Phe	His	Gly	Phe	Asn	Thr	Ile	Asn	
				165					170					175		
cac	ttc	ttc	tgt	gag	ttc	tcc	tca	cta	ctc	tcc	ctt	tct	tgc	tct	gat	576
His	Phe	Phe	Cys	Glu	Phe	Ser	Ser	Leu	Leu	Ser	Leu	Ser	Cys	Ser	Asp	
			180					185					190			
act	tac	atc	aac	cag	tgg	ctg	cta	ttc	ttt	ctt	gcc	acc	ttt	aat	gaa	624
Thr	Tyr	Ile	Asn	Gln	Trp	Leu	Leu	Phe	Phe	Leu	Ala	Thr	Phe	Asn	Glu	
		195				200						205				
atc	agc	aca	cta	ctc	atc	gtt	ctc	aca	tct	tat	gcg	ttc	att	gtt	gta	672
Ile	Ser	Thr	Leu	Leu	Ile	Val	Leu	Thr	Ser	Tyr	Ala	Phe	Ile	Val	Val	

210	215	220	
acc atc ctc aag atg cgt tca gtc agt ggg cgc cgc aaa gcc ttc tcc			720
Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser			
225	230	235	240
acc tgt gcc tcc cac ctg act gcc atc acc atc ttc cat ggc acc atc			768
Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile			
	245	250	255
ctc ttc ctt tac tgt gtg ccc aac tcc aaa aac tcc agg cac aca gtc			816
Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val			
	260	265	270
aaa gtg gcc tct gtg ttt tac acc gtg gtg atc ccc atg ttg aat ccc			864
Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro			
	275	280	285
ctg atc tac agt ctg aga aat aaa gat gtc aag gat aca gtc acc gag			912
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu			
	290	295	300
ata ctg gac acc aaa gtc ttc tct tac tga			942
Ile Leu Asp Thr Lys Val Phe Ser Tyr			
305	310		

<210> 48  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 48

Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu		
1	5	10 15
Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe		
	20	25 30
Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val		
	35	40 45
Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu		
	50	55 60
Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro		
65	70	75 80
Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu		
	85	90 95
Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu		
	100	105 110

Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys  
 115 120 125

Asn Pro Leu Leu Tyr Thr Val Asp Met Ser Gln Lys Leu Cys Val Leu  
 130 135 140

Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu  
 145 150 155 160

Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn  
 165 170 175

His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp  
 180 185 190

Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu  
 195 200 205

Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val  
 210 215 220

Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile  
 245 250 255

Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val  
 260 265 270

Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu  
 290 295 300

Ile Leu Asp Thr Lys Val Phe Ser Tyr  
 305 310

<210> 49  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)

&lt;223&gt;

&lt;400&gt; 49

atg atc tgt gaa aat cac acc aga gtc act gaa ttt att ctt ctt ggt	48
Met Ile Cys Glu Asn His Thr Arg Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ttt aca aac aac ccc gag atg caa gtt tcc ctc ttt att ttt ttc ctg	96
Phe Thr Asn Asn Pro Glu Met Gln Val Ser Leu Phe Ile Phe Phe Leu	
20 25 30	
gcc att tat aca gtc act ttg ttg ggc aac ttt ctt att gtc aca gtt	144
Ala Ile Tyr Thr Val Thr Leu Leu Gly Asn Phe Leu Ile Val Thr Val	
35 40 45	
acc agt gtg gat ctc gca ctt caa aca ccc atg tac ttc ttt ctt caa	192
Thr Ser Val Asp Leu Ala Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln	
50 55 60	
aat ctg tca ctt ctt gaa gta tgt ttc acc ttg gtt atg gtg cca aaa	240
Asn Leu Ser Leu Leu Glu Val Cys Phe Thr Leu Val Met Val Pro Lys	
65 70 75 80	
atg ctt gta gat cta gtg tcc cca agg aaa att atc tct ttt gtg ggc	288
Met Leu Val Asp Leu Val Ser Pro Arg Lys Ile Ile Ser Phe Val Gly	
85 90 95	
tgt ggt acc cag atg tac ttc ttc ttc ttc ttt ggc agt tct gaa tgt	336
Cys Gly Thr Gln Met Tyr Phe Phe Phe Phe Phe Gly Ser Ser Glu Cys	
100 105 110	
ttc ctt ctc tcc atg atg gct tat gat cgc ttt gtg gcc atc tgt aac	384
Phe Leu Leu Ser Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn	
115 120 125	
cct ctc cat tat tca gtc ata atg aac agg tcc cta tgc ttg tgg atg	432
Pro Leu His Tyr Ser Val Ile Met Asn Arg Ser Leu Cys Leu Trp Met	
130 135 140	
gcc ata ggc tct tgg atg tcc ggt gtt cct gtg tct atg cta cag aca	480
Ala Ile Gly Ser Trp Met Ser Gly Val Pro Val Ser Met Leu Gln Thr	
145 150 155 160	
gct tgg atg atg gcc ctt cct ttc tgt gga cca aat gcc gtg gac cac	528
Ala Trp Met Met Ala Leu Pro Phe Cys Gly Pro Asn Ala Val Asp His	
165 170 175	
ttt ttc tgt gat ggt ccc cca gtg tta aaa cta gtc aca gtg gat aca	576
Phe Phe Cys Asp Gly Pro Pro Val Leu Lys Leu Val Thr Val Asp Thr	
180 185 190	
acc atg tat gaa atg caa gca ctt gcc tcc aca ctc ctg ttt atc atg	624
Thr Met Tyr Glu Met Gln Ala Leu Ala Ser Thr Leu Leu Phe Ile Met	
195 200 205	
ttt ccc ttt tgt ctc att ttg gtt tcc tac acc cgc att atc ata aca	672
Phe Pro Phe Cys Leu Ile Leu Val Ser Tyr Thr Arg Ile Ile Ile Thr	
210 215 220	
att ctg agg atg tcc tct gcc act ggc cgc cag aag gca ttt tct act	720

Ile Leu Arg Met Ser Ser Ala Thr Gly Arg Gln Lys Ala Phe Ser Thr  
 225 230 235 240

tgt tcc tca cac ctc att gtg gtg tcc ctc ttc tac gga aca gcc agt 768  
 Cys Ser Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Ala Ser  
 245 250 255

ctg acc tac ctg cgg ccc aaa tca aac cag tcc cct gag agc aag aag 816  
 Leu Thr Tyr Leu Arg Pro Lys Ser Asn Gln Ser Pro Glu Ser Lys Lys  
 260 265 270

cta gtg tca ttg tcc tac act gtc atc aca cct atg cta aac ccc atc 864  
 Leu Val Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile  
 275 280 285

atc tac ggc ctg agg aac aat gaa gtg aaa ggg gct gtc aag agg aca 912  
 Ile Tyr Gly Leu Arg Asn Asn Glu Val Lys Gly Ala Val Lys Arg Thr  
 290 295 300

atc act caa aaa gtc tta cag aag tta gat gtg ttt tga 951  
 Ile Thr Gln Lys Val Leu Gln Lys Leu Asp Val Phe  
 305 310 315

<210> 50  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 50

Met Ile Cys Glu Asn His Thr Arg Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Phe Thr Asn Asn Pro Glu Met Gln Val Ser Leu Phe Ile Phe Phe Leu  
 20 25 30

Ala Ile Tyr Thr Val Thr Leu Leu Gly Asn Phe Leu Ile Val Thr Val  
 35 40 45

Thr Ser Val Asp Leu Ala Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln  
 50 55 60

Asn Leu Ser Leu Leu Glu Val Cys Phe Thr Leu Val Met Val Pro Lys  
 65 70 75 80

Met Leu Val Asp Leu Val Ser Pro Arg Lys Ile Ile Ser Phe Val Gly  
 85 90 95

Cys Gly Thr Gln Met Tyr Phe Phe Phe Phe Gly Ser Ser Glu Cys  
 100 105 110

Phe Leu Leu Ser Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
 115 120 125

Pro Leu His Tyr Ser Val Ile Met Asn Arg Ser Leu Cys Leu Trp Met  
 130 135 140

Ala Ile Gly Ser Trp Met Ser Gly Val Pro Val Ser Met Leu Gln Thr  
 145 150 155 160

Ala Trp Met Met Ala Leu Pro Phe Cys Gly Pro Asn Ala Val Asp His  
 165 170 175

Phe Phe Cys Asp Gly Pro Pro Val Leu Lys Leu Val Thr Val Asp Thr  
 180 185 190

Thr Met Tyr Glu Met Gln Ala Leu Ala Ser Thr Leu Leu Phe Ile Met  
 195 200 205

Phe Pro Phe Cys Leu Ile Leu Val Ser Tyr Thr Arg Ile Ile Ile Thr  
 210 215 220

Ile Leu Arg Met Ser Ser Ala Thr Gly Arg Gln Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Ala Ser  
 245 250 255

Leu Thr Tyr Leu Arg Pro Lys Ser Asn Gln Ser Pro Glu Ser Lys Lys  
 260 265 270

Leu Val Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile  
 275 280 285

Ile Tyr Gly Leu Arg Asn Asn Glu Val Lys Gly Ala Val Lys Arg Thr  
 290 295 300

Ile Thr Gln Lys Val Leu Gln Lys Leu Asp Val Phe  
 305 310 315

<210> 51  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (939)  
 <223>



<400> 51  
 atg ggt gac agg gga aca agc aat cac tca gaa atg act gac ttc att 48  
 Met Gly Asp Arg Gly Thr Ser Asn His Ser Glu Met Thr Asp Phe Ile  
 1 5 10 15

ctt gca ggc ttc agg gta cgc cca gag ctc cac att ctc ctc ttc ctg 96  
 Leu Ala Gly Phe Arg Val Arg Pro Glu Leu His Ile Leu Leu Phe Leu  
 20 25 30

cta ttt ttg ttt gtt tat gcc atg atc ctt cta ggg aat gtt ggg atg 144  
 Leu Phe Leu Phe Val Tyr Ala Met Ile Leu Leu Gly Asn Val Gly Met  
 35 40 45

atg acc att att atg act gat cct cgg ctg aac aca cca atg tat ttt 192  
 Met Thr Ile Ile Met Thr Asp Pro Arg Leu Asn Thr Pro Met Tyr Phe  
 50 55 60

ttc cta ggc aat ctc tcc ttc att gat ctt ttc tat tca tct gtt att 240  
 Phe Leu Gly Asn Leu Ser Phe Ile Asp Leu Phe Tyr Ser Ser Val Ile  
 65 70 75 80

gaa ccc aag gct atg atc aac ttc tgg tct gaa aac aag tct atc tcc 288  
 Glu Pro Lys Ala Met Ile Asn Phe Trp Ser Glu Asn Lys Ser Ile Ser  
 85 90 95

ttt gca ggc tgt gtg gcc cag ctc ttt ctc ttt gcc ctc ctc att gtg 336  
 Phe Ala Gly Cys Val Ala Gln Leu Phe Leu Phe Ala Leu Leu Ile Val  
 100 105 110

act gag gga ttt ctc ctg gcg gcc atg gct tat gac cgc ttt att gcc 384  
 Thr Glu Gly Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Phe Ile Ala  
 115 120 125

atc tgc aac cct ctg ctc tac tct gtt caa atg tcc aca cgt ctg tgt 432  
 Ile Cys Asn Pro Leu Leu Tyr Ser Val Gln Met Ser Thr Arg Leu Cys  
 130 135 140

act cag ttg gtg gct ggt tcc tat ttt tgt ggc tgc att agc tca gtt 480  
 Thr Gln Leu Val Ala Gly Ser Tyr Phe Cys Gly Cys Ile Ser Ser Val  
 145 150 155 160

att cag act agc atg aca ttt act tta tct ttt tgc gct tct cgg gct 528  
 Ile Gln Thr Ser Met Thr Phe Thr Leu Ser Phe Cys Ala Ser Arg Ala  
 165 170 175

gtt gac cac ttt tac tgt gat tct cgc cca ctt cag aga ctg tct tgt 576  
 Val Asp His Phe Tyr Cys Asp Ser Arg Pro Leu Gln Arg Leu Ser Cys  
 180 185 190

tct gat ctc ttt atc cat aga atg ata tct ttt tcc tta tca tgt att 624  
 Ser Asp Leu Phe Ile His Arg Met Ile Ser Phe Ser Leu Ser Cys Ile  
 195 200 205

att atc ttg cct act atc ata gtc att ata gta tct tac atg tat att 672  
 Ile Ile Leu Pro Thr Ile Ile Val Ile Ile Val Ser Tyr Met Tyr Ile  
 210 215 220

gtg tcc aca gtt cta aag ata cat tct act gag gga cat aag aag gcc 720  
 Val Ser Thr Val Leu Lys Ile His Ser Thr Glu Gly His Lys Lys Ala  
 225 230 235 240

ttc tcc acc tgc agc tct cac ctg gga gtt gtg agt gtg ctg tat ggt 768  
 Phe Ser Thr Cys Ser Ser His Leu Gly Val Val Ser Val Leu Tyr Gly  
 245 250 255  
 gct gtc ttt ttt atg tat ctc act cct gac aga ttt cct gag ctg agt 816  
 Ala Val Phe Phe Met Tyr Leu Thr Pro Asp Arg Phe Pro Glu Leu Ser  
 260 265 270  
 aaa gtg gca tcc tta tgt tac tcc cta gtc act ccc atg ttg aat cct 864  
 Lys Val Ala Ser Leu Cys Tyr Ser Leu Val Thr Pro Met Leu Asn Pro  
 275 280 285  
 ttg att tac tct ctg agg aac aaa gat gtc caa gag gct cta aaa aaa 912  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Gln Glu Ala Leu Lys Lys  
 290 295 300  
 ttt cta gag aag aaa aat att att ctt tga 942  
 Phe Leu Glu Lys Lys Asn Ile Ile Leu  
 305 310

<210> 52  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 52

Met Gly Asp Arg Gly Thr Ser Asn His Ser Glu Met Thr Asp Phe Ile  
 1 5 10 15  
 Leu Ala Gly Phe Arg Val Arg Pro Glu Leu His Ile Leu Leu Phe Leu  
 20 25 30  
 Leu Phe Leu Phe Val Tyr Ala Met Ile Leu Leu Gly Asn Val Gly Met  
 35 40 45  
 Met Thr Ile Ile Met Thr Asp Pro Arg Leu Asn Thr Pro Met Tyr Phe  
 50 55 60  
 Phe Leu Gly Asn Leu Ser Phe Ile Asp Leu Phe Tyr Ser Ser Val Ile  
 65 70 75 80  
 Glu Pro Lys Ala Met Ile Asn Phe Trp Ser Glu Asn Lys Ser Ile Ser  
 85 90 95  
 Phe Ala Gly Cys Val Ala Gln Leu Phe Leu Phe Ala Leu Leu Ile Val  
 100 105 110  
 Thr Glu Gly Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Phe Ile Ala  
 115 120 125  
 Ile Cys Asn Pro Leu Leu Tyr Ser Val Gln Met Ser Thr Arg Leu Cys

130                                      135                                      140  
 Thr Gln Leu Val Ala Gly Ser Tyr Phe Cys Gly Cys Ile Ser Ser Val  
 145                                      150                                      155                                      160  
 Ile Gln Thr Ser Met Thr Phe Thr Leu Ser Phe Cys Ala Ser Arg Ala  
                                     165                                      170                                      175  
 Val Asp His Phe Tyr Cys Asp Ser Arg Pro Leu Gln Arg Leu Ser Cys  
                                     180                                      185                                      190  
 Ser Asp Leu Phe Ile His Arg Met Ile Ser Phe Ser Leu Ser Cys Ile  
                                     195                                      200                                      205  
 Ile Ile Leu Pro Thr Ile Ile Val Ile Ile Val Ser Tyr Met Tyr Ile  
                                     210                                      215                                      220  
 Val Ser Thr Val Leu Lys Ile His Ser Thr Glu Gly His Lys Lys Ala  
 225                                      230                                      235                                      240  
 Phe Ser Thr Cys Ser Ser His Leu Gly Val Val Ser Val Leu Tyr Gly  
                                     245                                      250                                      255  
 Ala Val Phe Phe Met Tyr Leu Thr Pro Asp Arg Phe Pro Glu Leu Ser  
                                     260                                      265                                      270  
 Lys Val Ala Ser Leu Cys Tyr Ser Leu Val Thr Pro Met Leu Asn Pro  
                                     275                                      280                                      285  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Gln Glu Ala Leu Lys Lys  
                                     290                                      295                                      300  
 Phe Leu Glu Lys Lys Asn Ile Ile Leu  
 305                                      310

<210> 53  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (954)  
 <223>

<400> 53  
 atg aag aat gtc act gaa gtt acc tta ttt gta ctg aag ggc ttc aca  
 Met Lys Asn Val Thr Glu Val Thr Leu Phe Val Leu Lys Gly Phe Thr

48

1	5	10	15	
gac aat ctt gaa ctg cag act atc ttc ttc ttc ctg ttt cta gca atc				96
Asp Asn Leu Glu Leu Gln Thr Ile Phe Phe Phe Leu Phe Leu Ala Ile	20	25	30	
tac ctc ttc act ctc atg gga aat tta gga ctg att tta gtg gtc att				144
Tyr Leu Phe Thr Leu Met Gly Asn Leu Gly Leu Ile Leu Val Val Ile	35	40	45	
agg gat tcc cag ctc cac aaa ccc atg tac tat ttt ctg agt atg ttg				192
Arg Asp Ser Gln Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu	50	55	60	
tct tct gtg gat gcc tgc tat tcc tca gtt att acc cca aat atg tta				240
Ser Ser Val Asp Ala Cys Tyr Ser Ser Val Ile Thr Pro Asn Met Leu	65	70	75	80
gta gat ttt acg aca aag aat aaa gtc att tca ttc ctt gga tgt gta				288
Val Asp Phe Thr Thr Lys Asn Lys Val Ile Ser Phe Leu Gly Cys Val	85	90	95	
gca cag gtg ttt ctt gct tgt agt ttt gga acc aca gaa tgc ttt ctc				336
Ala Gln Val Phe Leu Ala Cys Ser Phe Gly Thr Thr Glu Cys Phe Leu	100	105	110	
ttg gct gca atg gct tat gat cgc tat gta gcc atc tac aac cct ctc				384
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu	115	120	125	
ctg tat tca gtg agc atg tca ccc aga gtc tac atg cca ctc atc aat				432
Leu Tyr Ser Val Ser Met Ser Pro Arg Val Tyr Met Pro Leu Ile Asn	130	135	140	
gct tcc tat gtt gct ggc att tta cat gct act ata cat aca gtg gct				480
Ala Ser Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Thr Val Ala	145	150	155	160
aca ttt agc cta tcc ttc tgt gga gcc aat gaa att agg cgt gtc ttt				528
Thr Phe Ser Leu Ser Phe Cys Gly Ala Asn Glu Ile Arg Arg Val Phe	165	170	175	
tgt gat atc cct cct ctc ctt gct att tct tat tct gac act cac aca				576
Cys Asp Ile Pro Pro Leu Leu Ala Ile Ser Tyr Ser Asp Thr His Thr	180	185	190	
aac cag ctt cta ctc ttc tac ttt gtg ggc tct atc gag ctg gtc act				624
Asn Gln Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Leu Val Thr	195	200	205	
atc ctg att gtt ctg atc tcc tat ggt ttg att ctg ttg gcc att ctg				672
Ile Leu Ile Val Leu Ile Ser Tyr Gly Leu Ile Leu Leu Ala Ile Leu	210	215	220	
aag atg tat tct gct gaa ggg agg aga aaa gtc ttc tcc aca tgt gga				720
Lys Met Tyr Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly	225	230	235	240
gct cac cta act gga gtg tca att tat tat ggg aca atc ctc ttc atg				768
Ala His Leu Thr Gly Val Ser Ile Tyr Tyr Gly Thr Ile Leu Phe Met	245	250	255	

tat gtg aga cca agt tcc agc tat gct tcg gac cat gac atg ata gtg 816  
 Tyr Val Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Met Ile Val  
                   260                                  265                                  270

tca ata ttt tac acc att gtg att ccc ttg ctg aat ccc gtc atc tac 864  
 Ser Ile Phe Tyr Thr Ile Val Ile Pro Leu Leu Asn Pro Val Ile Tyr  
                   275                                  280                                  285

agt ttg agg aac aaa gat gta aaa gac tca atg aaa aaa atg ttt ggg 912  
 Ser Leu Arg Asn Lys Asp Val Lys Asp Ser Met Lys Lys Met Phe Gly  
                   290                                  295                                  300

aaa aat cag gtt atc aat aaa gta tat ttt cat act aaa aaa taa 957  
 Lys Asn Gln Val Ile Asn Lys Val Tyr Phe His Thr Lys Lys  
                   305                                  310                                  315

<210> 54  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 54

Met Lys Asn Val Thr Glu Val Thr Leu Phe Val Leu Lys Gly Phe Thr  
 1                                  5                                  10                                  15

Asp Asn Leu Glu Leu Gln Thr Ile Phe Phe Phe Leu Phe Leu Ala Ile  
                   20                                  25                                  30

Tyr Leu Phe Thr Leu Met Gly Asn Leu Gly Leu Ile Leu Val Val Ile  
                   35                                  40                                  45

Arg Asp Ser Gln Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu  
                   50                                  55                                  60

Ser Ser Val Asp Ala Cys Tyr Ser Ser Val Ile Thr Pro Asn Met Leu  
 65                                  70                                  75                                  80

Val Asp Phe Thr Thr Lys Asn Lys Val Ile Ser Phe Leu Gly Cys Val  
                   85                                  90                                  95

Ala Gln Val Phe Leu Ala Cys Ser Phe Gly Thr Thr Glu Cys Phe Leu  
                   100                                  105                                  110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu  
                   115                                  120                                  125

Leu Tyr Ser Val Ser Met Ser Pro Arg Val Tyr Met Pro Leu Ile Asn  
                   130                                  135                                  140

Ala Ser Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Thr Val Ala  
145 150 155 160

Thr Phe Ser Leu Ser Phe Cys Gly Ala Asn Glu Ile Arg Arg Val Phe  
165 170 175

Cys Asp Ile Pro Pro Leu Leu Ala Ile Ser Tyr Ser Asp Thr His Thr  
180 185 190

Asn Gln Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Leu Val Thr  
195 200 205

Ile Leu Ile Val Leu Ile Ser Tyr Gly Leu Ile Leu Leu Ala Ile Leu  
210 215 220

Lys Met Tyr Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly  
225 230 235 240

Ala His Leu Thr Gly Val Ser Ile Tyr Tyr Gly Thr Ile Leu Phe Met  
245 250 255

Tyr Val Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Met Ile Val  
260 265 270

Ser Ile Phe Tyr Thr Ile Val Ile Pro Leu Leu Asn Pro Val Ile Tyr  
275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Asp Ser Met Lys Lys Met Phe Gly  
290 295 300

Lys Asn Gln Val Ile Asn Lys Val Tyr Phe His Thr Lys Lys  
305 310 315

<210> 55  
<211> 969  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(966)  
<223>

<400> 55  
atg gac aag ttg tca tca ggt ttg gat ata tac agg aat cca ctg aag 48  
Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro Leu Lys  
1 5 10 15  
aac aag act gaa gtc acc atg ttt ata ttg aca ggc ttc aca gat gat 96

Asn	Lys	Thr	Glu	Val	Thr	Met	Phe	Ile	Leu	Thr	Gly	Phe	Thr	Asp	Asp	
			20					25					30			
ttt	gag	ctg	caa	gtc	ttc	cta	ttt	tta	cta	ttt	ttt	gca	atc	tat	ctc	144
Phe	Glu	Leu	Gln	Val	Phe	Leu	Phe	Leu	Leu	Phe	Phe	Ala	Ile	Tyr	Leu	
		35					40					45				
ttt	acc	ttg	ata	ggc	aat	tta	ggg	ctg	ggt	gtg	ttg	gtc	att	gag	gat	192
Phe	Thr	Leu	Ile	Gly	Asn	Leu	Gly	Leu	Val	Val	Leu	Val	Ile	Glu	Asp	
	50					55					60					
tcc	tgg	ctc	cac	aac	ccc	atg	tat	tat	ttt	ctt	agt	ggt	tta	tca	ttc	240
Ser	Trp	Leu	His	Asn	Pro	Met	Tyr	Tyr	Phe	Leu	Ser	Val	Leu	Ser	Phe	
65					70					75					80	
ttg	gat	gct	tgc	tat	tct	aca	ggt	gtc	act	cca	aaa	atg	ttg	gtc	aat	288
Leu	Asp	Ala	Cys	Tyr	Ser	Thr	Val	Val	Thr	Pro	Lys	Met	Leu	Val	Asn	
				85					90					95		
ttc	ctg	gca	aaa	aat	aaa	tcc	att	tca	ttt	atc	gga	tgt	gca	aca	cag	336
Phe	Leu	Ala	Lys	Asn	Lys	Ser	Ile	Ser	Phe	Ile	Gly	Cys	Ala	Thr	Gln	
			100					105						110		
atg	ctt	ctt	ttt	ggt	act	ttt	gga	act	aca	gaa	tgt	ttt	ctc	ttg	gct	384
Met	Leu		Phe	Val	Thr	Phe	Gly	Thr	Thr	Glu	Cys	Phe	Leu	Leu	Ala	
		115					120						125			
gca	atg	gct	tat	gat	cac	tat	gta	gcc	atc	tac	aac	cct	ctc	ctg	tat	432
Ala	Met	Ala	Tyr	Asp	His	Tyr	Val	Ala	Ile	Tyr	Asn	Pro	Leu	Leu	Tyr	
	130					135					140					
tca	gtg	agc	atg	tca	ccc	aga	gtc	tat	gtg	cca	ctc	atc	act	gct	tcc	480
Ser	Val	Ser	Met	Ser		Pro	Arg	Val	Tyr	Val	Pro	Leu	Ile	Thr	Ala	
145					150					155					160	
tac	ggt	gct	ggc	att	tta	cat	gct	act	ata	cat	ata	gtg	gct	aca	ttt	528
Tyr	Val	Ala	Gly	Ile	Leu	His	Ala	Thr	Ile	His	Ile	Val	Ala	Thr	Phe	
				165					170					175		
agc	ctg	tcc	ttc	tgt	gga	tcc	aat	gaa	att	agg	cat	gtc	ttt	tgt	gat	576
Ser	Leu	Ser	Phe	Cys	Gly	Ser	Asn	Glu	Ile	Arg	His	Val	Phe	Cys	Asp	
			180					185					190			
atg	cct	cct	ctc	ctt	gct	att	tct	tgt	tct	gac	act	cac	aca	aac	cag	624
Met	Pro	Pro	Leu	Leu	Ala	Ile	Ser	Cys	Ser	Asp	Thr	His	Thr	Asn	Gln	
		195					200					205				
ctt	cta	ctc	ttc	tac	ttt	gtg	ggt	tct	att	gag	ata	gtc	act	atc	ctg	672
Leu	Leu	Leu	Phe	Tyr	Phe	Val	Gly	Ser	Ile	Glu	Ile	Val	Thr	Ile	Leu	
	210					215					220					
att	gtc	ctc	att	tcc	tgt	gat	ttc	att	ctg	ttg	tcc	att	ctg	aag	atg	720
Ile	Val	Leu	Ile	Ser	Cys	Asp	Phe	Ile	Leu	Leu	Ser	Ile	Leu	Lys	Met	
225					230				235					240		
cat	tct	gct	aag	gga	agg	caa	aag	gcc	ttc	tct	aca	tgt	ggc	tct	cac	768
His	Ser	Ala	Lys	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Gly	Ser	His	
			245					250					255			
cta	act	gga	gtg	aca	att	tat	cat	gga	aca	att	ctc	gtc	agt	tat	atg	816
Leu	Thr	Gly	Val	Thr	Ile	Tyr	His	Gly	Thr	Ile	Leu	Val	Ser	Tyr	Met	

260	265	270	
aga cca agt tcc agc tat gct tca gac cat gac atc ata gtg tca ata			864
Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Ile Ile Val Ser Ile			
275	280	285	
ttt tac aca att gtg att ccc aag ttg aat ccc atc atc tat agt ttg			912
Phe Tyr Thr Ile Val Ile Pro Lys Leu Asn Pro Ile Ile Tyr Ser Leu			
290	295	300	
agg aac aaa gaa gta aaa aag gca gtg aag aaa atg ttg aaa ttg gtt			960
Arg Asn Lys Glu Val Lys Lys Ala Val Lys Lys Met Leu Lys Leu Val			
305	310	315	320
tac aaa tga			969
Tyr Lys			

<210> 56  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 56

Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro Leu Lys
1 5 10 15

Asn Lys Thr Glu Val Thr Met Phe Ile Leu Thr Gly Phe Thr Asp Asp
20 25 30

Phe Glu Leu Gln Val Phe Leu Phe Leu Leu Phe Phe Ala Ile Tyr Leu
35 40 45

Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Leu Val Ile Glu Asp
50 55 60

Ser Trp Leu His Asn Pro Met Tyr Tyr Phe Leu Ser Val Leu Ser Phe
65 70 75 80

Leu Asp Ala Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn
85 90 95

Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Ile Gly Cys Ala Thr Gln
100 105 110

Met Leu Leu Phe Val Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala
115 120 125

Ala Met Ala Tyr Asp His Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr
130 135 140



Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser  
 145 150 155 160

Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Ile Val Ala Thr Phe  
 165 170 175

Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asp  
 180 185 190

Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Thr Asn Gln  
 195 200 205

Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu  
 210 215 220

Ile Val Leu Ile Ser Cys Asp Phe Ile Leu Leu Ser Ile Leu Lys Met  
 225 230 235 240

His Ser Ala Lys Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly Ser His  
 245 250 255

Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Val Ser Tyr Met  
 260 265 270

Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Ile Ile Val Ser Ile  
 275 280 285

Phe Tyr Thr Ile Val Ile Pro Lys Leu Asn Pro Ile Ile Tyr Ser Leu  
 290 295 300

Arg Asn Lys Glu Val Lys Lys Ala Val Lys Lys Met Leu Lys Leu Val  
 305 310 315 320

Tyr Lys

<210> 57  
 <211> 960  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (957)  
 <223>

<400> 57

atg aat cat gtg gta aaa cac aat cac acg gca gtg acc aag gtg act	48
Met Asn His Val Val Lys His Asn His Thr Ala Val Thr Lys Val Thr	
1 5 10 15	
gaa ttt att ctc atg ggg att aca gac aac cct ggg ctg cag gct cca	96
Glu Phe Ile Leu Met Gly Ile Thr Asp Asn Pro Gly Leu Gln Ala Pro	
20 25 30	
ctg ttt gga ctc ttc ctc atc ata tat ctg gtc aca gtg ata ggc aat	144
Leu Phe Gly Leu Phe Leu Ile Ile Tyr Leu Val Thr Val Ile Gly Asn	
35 40 45	
ctg ggc atg gtt atc ttg acc tac ttg gac tcc aag cta cac acc ccc	192
Leu Gly Met Val Ile Leu Thr Tyr Leu Asp Ser Lys Leu His Thr Pro	
50 55 60	
atg tac ttt ttc ctt aga cat ttg tca atc act gat ctt ggt tac tcc	240
Met Tyr Phe Phe Leu Arg His Leu Ser Ile Thr Asp Leu Gly Tyr Ser	
65 70 75 80	
act gtc att gcc ccg aag atg tta gta aac ttc ata gtg cac aaa aac	288
Thr Val Ile Ala Pro Lys Met Leu Val Asn Phe Ile Val His Lys Asn	
85 90 95	
aca att tct tac aat tgg tat gcc act cag cta gca ttc ttt gag att	336
Thr Ile Ser Tyr Asn Trp Tyr Ala Thr Gln Leu Ala Phe Phe Glu Ile	
100 105 110	
ttc atc atc tct gag ctc ttt att cta tca gca atg gcc tat gat cgc	384
Phe Ile Ile Ser Glu Leu Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg	
115 120 125	
tac gta gcc atc tgt aaa cct ctt ctg tac gtg atc atc atg gca gag	432
Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr Val Ile Ile Met Ala Glu	
130 135 140	
aaa gta ctt tgg gtg ctg gta att gtt ccc tat ctc tat agc acg ttt	480
Lys Val Leu Trp Val Leu Val Ile Val Pro Tyr Leu Tyr Ser Thr Phe	
145 150 155 160	
gtg tca cta ttt ctc aca att aag tta ttt aaa ctg tcc ttc tgt ggc	528
Val Ser Leu Phe Leu Thr Ile Lys Leu Phe Lys Leu Ser Phe Cys Gly	
165 170 175	
tca aac ata atc agc tat ttt tac tgt gac tgt atc cct ctg atg tcc	576
Ser Asn Ile Ile Ser Tyr Phe Tyr Cys Asp Cys Ile Pro Leu Met Ser	
180 185 190	
ata ctc tgt tct gac aca aat gaa tta gaa tta ata att ttg atc ttc	624
Ile Leu Cys Ser Asp Thr Asn Glu Leu Glu Leu Ile Ile Leu Ile Phe	
195 200 205	
tca ggc tgt aat ttg ctc ttc tcc ctc tca att gtt ctc ata tcc tac	672
Ser Gly Cys Asn Leu Leu Phe Ser Leu Ser Ile Val Leu Ile Ser Tyr	
210 215 220	
atg ttt att cta gtg gcc att ctc aga atg aac tca agg aaa ggg agg	720
Met Phe Ile Leu Val Ala Ile Leu Arg Met Asn Ser Arg Lys Gly Arg	
225 230 235 240	
tac aaa gcc ttc tcc acc tgt agc tct cat ctg aca gtg gtg atc atg	768

Tyr Lys Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Ile Met  
 245 250 255

ttc tat ggg aca ttg tta ttt att tac ttg caa ccc aag tcc agt cat 816  
 Phe Tyr Gly Thr Leu Leu Phe Ile Tyr Leu Gln Pro Lys Ser Ser His  
 260 265 270

act ttg gct att gat aaa atg gcc tca gtg ttt tat acc ctg ttg att 864  
 Thr Leu Ala Ile Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Leu Ile  
 275 280 285

cct atg ctg aat ccg ttg atc tac agc cta agg aac aaa gaa gta aaa 912  
 Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys  
 290 295 300

gat gct cta aag aga act tta acc aat cga ttc aaa att ccc att taa 960  
 Asp Ala Leu Lys Arg Thr Leu Thr Asn Arg Phe Lys Ile Pro Ile  
 305 310 315

<210> 58  
 <211> 319  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 58

Met Asn His Val Val Lys His Asn His Thr Ala Val Thr Lys Val Thr  
 1 5 10 15

Glu Phe Ile Leu Met Gly Ile Thr Asp Asn Pro Gly Leu Gln Ala Pro  
 20 25 30

Leu Phe Gly Leu Phe Leu Ile Ile Tyr Leu Val Thr Val Ile Gly Asn  
 35 40 45

Leu Gly Met Val Ile Leu Thr Tyr Leu Asp Ser Lys Leu His Thr Pro  
 50 55 60

Met Tyr Phe Phe Leu Arg His Leu Ser Ile Thr Asp Leu Gly Tyr Ser  
 65 70 75 80

Thr Val Ile Ala Pro Lys Met Leu Val Asn Phe Ile Val His Lys Asn  
 85 90 95

Thr Ile Ser Tyr Asn Trp Tyr Ala Thr Gln Leu Ala Phe Phe Glu Ile  
 100 105 110

Phe Ile Ile Ser Glu Leu Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg  
 115 120 125

Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr Val Ile Ile Met Ala Glu  
 130 135 140

Lys Val Leu Trp Val Leu Val Ile Val Pro Tyr Leu Tyr Ser Thr Phe  
145 150 155 160

Val Ser Leu Phe Leu Thr Ile Lys Leu Phe Lys Leu Ser Phe Cys Gly  
165 170 175

Ser Asn Ile Ile Ser Tyr Phe Tyr Cys Asp Cys Ile Pro Leu Met Ser  
180 185 190

Ile Leu Cys Ser Asp Thr Asn Glu Leu Glu Leu Ile Ile Leu Ile Phe  
195 200 205

Ser Gly Cys Asn Leu Leu Phe Ser Leu Ser Ile Val Leu Ile Ser Tyr  
210 215 220

Met Phe Ile Leu Val Ala Ile Leu Arg Met Asn Ser Arg Lys Gly Arg  
225 230 235 240

Tyr Lys Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Ile Met  
245 250 255

Phe Tyr Gly Thr Leu Leu Phe Ile Tyr Leu Gln Pro Lys Ser Ser His  
260 265 270

Thr Leu Ala Ile Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Leu Ile  
275 280 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys  
290 295 300

Asp Ala Leu Lys Arg Thr Leu Thr Asn Arg Phe Lys Ile Pro Ile  
305 310 315

<210> 59  
<211> 939  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(936)  
<223>

<400> 59  
atg gaa caa cac aat cta aca acg gtg aat gaa ttc att ctt acg gga  
Met Glu Gln His Asn Leu Thr Thr Val Asn Glu Phe Ile Leu Thr Gly  
1 5 10 15

48

atc aca gat atc gct gag ctg cag gca cca tta ttt gca ttg ttc ctc Ile Thr Asp Ile Ala Glu Leu Gln Ala Pro Leu Phe Ala Leu Phe Leu 20 25 30	96
atg atc tat gtg atc tca gtg atg ggc aat ttg ggc atg att gtc ctc Met Ile Tyr Val Ile Ser Val Met Gly Asn Leu Gly Met Ile Val Leu 35 40 45	144
acc aag ttg gac tcc agg ttg caa acc cct atg tac ttt ttt ctc aga Thr Lys Leu Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg 50 55 60	192
cat ctg gct ttc atg gat ctt ggt tat tca aca act gtg gga ccc aaa His Leu Ala Phe Met Asp Leu Gly Tyr Ser Thr Thr Val Gly Pro Lys 65 70 75 80	240
atg tta gta aat ttt gtt gtg gat aag aat ata att tct tat tat ttt Met Leu Val Asn Phe Val Val Asp Lys Asn Ile Ile Ser Tyr Tyr Phe 85 90 95	288
tgt gca aca cag cta gct ttc ttt ctt gtg ttc att ggt agt gaa ctt Cys Ala Thr Gln Leu Ala Phe Phe Leu Val Phe Ile Gly Ser Glu Leu 100 105 110	336
ttt att ctc tca gcc atg tcc tac gac ctc tat gtg gcc atc tgt aac Phe Ile Leu Ser Ala Met Ser Tyr Asp Leu Tyr Val Ala Ile Cys Asn 115 120 125	384
cct ctg cta tac aca gta atc atg tca cga agg gta tgt cag gtg ctg Pro Leu Leu Tyr Thr Val Ile Met Ser Arg Arg Val Cys Gln Val Leu 130 135 140	432
gta gca atc cct tac ctc tat tgc aca ttc att tct ctt cta gtc acc Val Ala Ile Pro Tyr Leu Tyr Cys Thr Phe Ile Ser Leu Leu Val Thr 145 150 155 160	480
ata aag att ttt act tta tcc ttc tgt ggc tac aac gtc att agt cat Ile Lys Ile Phe Thr Leu Ser Phe Cys Gly Tyr Asn Val Ile Ser His 165 170 175	528
ttc tac tgt gac agt ctc cct ttg tta cct ttg ctt tgt tca aat aca Phe Tyr Cys Asp Ser Leu Pro Leu Leu Pro Leu Leu Cys Ser Asn Thr 180 185 190	576
cat gaa att gaa ttg ata att ctg atc ttt gca gct att gat ttg att His Glu Ile Glu Leu Ile Ile Leu Ile Phe Ala Ala Ile Asp Leu Ile 195 200 205	624
tca tct ctt ctg ata gtt ctt tta tct tac ctg ctc atc ctt gta gcc Ser Ser Leu Leu Ile Val Leu Leu Ser Tyr Leu Leu Ile Leu Val Ala 210 215 220	672
att ctc agg atg aat tct gct ggc aga caa aag gct ttt tct acc tgt Ile Leu Arg Met Asn Ser Ala Gly Arg Gln Lys Ala Phe Ser Thr Cys 225 230 235 240	720
gga gcc cac ctg aca gtg gtc ata gtg ttc tat ggg act ttg ctt ttc Gly Ala His Leu Thr Val Val Ile Val Phe Tyr Gly Thr Leu Leu Phe 245 250 255	768

atg tac gtg cag ccc aag tcc agt cat tcc ttt gac act gat aaa gtg 816  
 Met Tyr Val Gln Pro Lys Ser Ser His Ser Phe Asp Thr Asp Lys Val  
                   260                                  265                                  270

gct tcc ata ttt tac acc ctg gtt atc ccc atg ttg aat ccc ttg atc 864  
 Ala Ser Ile Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu Ile  
                   275                                  280                                  285

tat agt tta cga aac aaa gat gta aaa tat gcc cta cga agg aca tgg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Tyr Ala Leu Arg Arg Thr Trp  
                   290                                  295                                  300

aat aac tta tgt aat att ttt gtt taa 939  
 Asn Asn Leu Cys Asn Ile Phe Val  
                   305                                  310

<210> 60  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 60

Met Glu Gln His Asn Leu Thr Thr Val Asn Glu Phe Ile Leu Thr Gly  
   1                                  5                                  10                                  15

Ile Thr Asp Ile Ala Glu Leu Gln Ala Pro Leu Phe Ala Leu Phe Leu  
                   20                                  25                                  30

Met Ile Tyr Val Ile Ser Val Met Gly Asn Leu Gly Met Ile Val Leu  
                   35                                  40                                  45

Thr Lys Leu Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg  
                   50                                  55                                  60

His Leu Ala Phe Met Asp Leu Gly Tyr Ser Thr Thr Val Gly Pro Lys  
                   65                                  70                                  75                                  80

Met Leu Val Asn Phe Val Val Asp Lys Asn Ile Ile Ser Tyr Tyr Phe  
                   85                                  90                                  95

Cys Ala Thr Gln Leu Ala Phe Phe Leu Val Phe Ile Gly Ser Glu Leu  
                   100                                  105                                  110

Phe Ile Leu Ser Ala Met Ser Tyr Asp Leu Tyr Val Ala Ile Cys Asn  
                   115                                  120                                  125

Pro Leu Leu Tyr Thr Val Ile Met Ser Arg Arg Val Cys Gln Val Leu  
                   130                                  135                                  140

Val Ala Ile Pro Tyr Leu Tyr Cys Thr Phe Ile Ser Leu Leu Val Thr

145                      150                      155                      160  
 Ile Lys Ile Phe Thr Leu Ser Phe Cys Gly Tyr Asn Val Ile Ser His  
                                  165                                   170                                   175  
 Phe Tyr Cys Asp Ser Leu Pro Leu Leu Pro Leu Leu Cys Ser Asn Thr  
                                  180                                   185                                   190  
 His Glu Ile Glu Leu Ile Ile Leu Ile Phe Ala Ala Ile Asp Leu Ile  
                                  195                                   200                                   205  
 Ser Ser Leu Leu Ile Val Leu Leu Ser Tyr Leu Leu Ile Leu Val Ala  
                                  210                                   215                                   220  
 Ile Leu Arg Met Asn Ser Ala Gly Arg Gln Lys Ala Phe Ser Thr Cys  
 225                                   230                                   235                                   240  
 Gly Ala His Leu Thr Val Val Ile Val Phe Tyr Gly Thr Leu Leu Phe  
                                  245                                   250                                   255  
 Met Tyr Val Gln Pro Lys Ser Ser His Ser Phe Asp Thr Asp Lys Val  
                                  260                                   265                                   270  
 Ala Ser Ile Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu Ile  
                                  275                                   280                                   285  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Tyr Ala Leu Arg Arg Thr Trp  
                                  290                                   295                                   300  
 Asn Asn Leu Cys Asn Ile Phe Val  
 305                                   310

<210> 61  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(933)  
 <223>

<400> 61  
 atg ggt aga aga aat aac aca aat gtg cct gac ttc atc ctt acg gga                      48  
 Met Gly Arg Arg Asn Asn Thr Asn Val Pro Asp Phe Ile Leu Thr Gly  
 1                                   5                                   10                                   15  
 ctg tca gat tct gaa gag gtc cag atg gcc ctc ttt ata cta ttt ctc                      96  
 Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Ile Leu Phe Leu

20	25	30	
ctg ata tac cta att act atg ctg ggc aat gtg ggg atg ata ttg ata Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu Ile 35 40 45			144
atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt act Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu Thr 50 55 60			192
cac ttg tca ttt att gac ctc agt tac tca act gtc atc aca cct aaa His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Ile Thr Pro Lys 65 70 75 80			240
acc tta gcg aac tta ctg act tcc aac tat att tcc ttc atg ggc tgc Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Met Gly Cys 85 90 95			288
ttt gcc cag atg ttc ttt ttt gtc ttc ttg gga gct gct gaa tgt ttt Phe Ala Gln Met Phe Phe Phe Val Phe Leu Gly Ala Ala Glu Cys Phe 100 105 110			336
ctt ctc tca tca atg gcc tat gat cgc tac gta gct atc tgc agt cct Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro 115 120 125			384
cta cgt tac cca gtt att atg tcc aaa agg ctg tgt tgc gct ctt gtc Leu Arg Tyr Pro Val Ile Met Ser Lys Arg Leu Cys Cys Ala Leu Val 130 135 140			432
act ggg ccc tat gtg att agc ttt atc aac tcc ttt gtc aat gtg gtt Thr Gly Pro Tyr Val Ile Ser Phe Ile Asn Ser Phe Val Asn Val Val 145 150 155 160			480
tgg atg agc aga ctg cat ttc tgc gac tca aat gta gtt cgt cac ttt Trp Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Val Arg His Phe 165 170 175			528
ttc tgc gac acg tct cca att tta gct ctg tcc tgc atg gac aca tac Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Met Asp Thr Tyr 180 185 190			576
gac att gaa atc atg ata cac att tta gct ggt tcc acc ctg atg gtg Asp Ile Glu Ile Met Ile His Ile Leu Ala Gly Ser Thr Leu Met Val 195 200 205			624
tcc ctt atc aca ata tct gca tcc tat gtg tcc att ctc tct acc atc Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr Ile 210 215 220			672
ctg aaa att aat tcc act tca gga aag cag aaa gct ttg tct act tgt Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Leu Ser Thr Cys 225 230 235 240			720
gcc tct cat ctc ttg gga gtc acc atc ttt tat gga act atg att ttt Ala Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile Phe 245 250 255			768
act tat tta aaa cca aga aag tct tat tct ttg gga agg gat caa gtg Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln Val 260 265 270			816



gct tct gtt ttt tat act att gtg att ccc atg ctg aat cca ctc att 864  
 Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
           275                                  280                                  285

tat agt ctt aga aac aaa gaa gtt aaa aat gct ctc att aga gtc atg 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Leu Ile Arg Val Met  
           290                                  295                                  300

cag aga aga cag gac tcc agg taa 936  
 Gln Arg Arg Gln Asp Ser Arg  
           305                                  310

<210> 62  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 62

Met Gly Arg Arg Asn Asn Thr Asn Val Pro Asp Phe Ile Leu Thr Gly  
 1                                  5                                  10                                  15

Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Ile Leu Phe Leu  
                                   20                                  25                                  30

Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu Ile  
           35                                  40                                  45

Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
           50                                  55                                  60

His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Ile Thr Pro Lys  
 65                                  70                                  75                                  80

Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Met Gly Cys  
                                   85                                  90                                  95

Phe Ala Gln Met Phe Phe Phe Val Phe Leu Gly Ala Ala Glu Cys Phe  
           100                                  105                                  110

Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro  
           115                                  120                                  125

Leu Arg Tyr Pro Val Ile Met Ser Lys Arg Leu Cys Cys Ala Leu Val  
           130                                  135                                  140

Thr Gly Pro Tyr Val Ile Ser Phe Ile Asn Ser Phe Val Asn Val Val  
 145                                  150                                  155                                  160

Trp Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Val Arg His Phe  
 165 170 175

Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Met Asp Thr Tyr  
 180 185 190

Asp Ile Glu Ile Met Ile His Ile Leu Ala Gly Ser Thr Leu Met Val  
 195 200 205

Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr Ile  
 210 215 220

Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Leu Ser Thr Cys  
 225 230 235 240

Ala Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile Phe  
 245 250 255

Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln Val  
 260 265 270

Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Leu Ile Arg Val Met  
 290 295 300

Gln Arg Arg Gln Asp Ser Arg  
 305 310

<210> 63  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)  
 <223>

<400> 63  
 atg gct cct gaa aat ttc acc agg gtc act gag ttt att ctt aca ggt 48  
 Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly  
 1 5 10 15  
 gtc tct agc tgt cca gag ctc cag att ccc ctc ttc ctg gtc ttt ctg 96  
 Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30  
 gtg ctc tat ggg ctg acc atg gca ggg aac ctg ggc atc atc acc ctc 144

Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu	
35 40 45	
acc agt gtt gac tct cga ctt caa acc ccc atg tac ttt ttc ctg caa	192
Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln	
50 55 60	
cat ctg gct ctc att aat ctt ggt aac tct act gtc att gcc cct aaa	240
His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys	
65 70 75 80	
atg ctg att aac ttt tta gta aag aag aaa act acc tca ttc tat gaa	288
Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu	
85 90 95	
tgt gcc acc caa ctg gga ggg ttc ttg ttc ttt att gta tgc gag gta	336
Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val	
100 105 110	
atc atg ctg gct ttg atg gcc tgt gac cgc tat gtg gct att tgt aac	384
Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cct ctg ctg tac atg gtg gtg gtg tct cgg cgg ctc tgc ctc ctg ctg	432
Pro Leu Leu Tyr Met Val Val Ser Arg Arg Leu Cys Leu Leu Leu	
130 135 140	
gtc tcc ctc aca tac ctc tat ggc ttt tct aca gct att gtg gtt tca	480
Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser	
145 150 155 160	
tct tat gta ttc tct gtg tct tat tgc tct tct aat ata atc aat cat	528
Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His	
165 170 175	
ttt tac tgt gat aat gtt cct ctg tta gca tta tct tgc tct gat act	576
Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr	
180 185 190	
tac tta cca gaa aca gtt gtc ttt ata tct gca gca aca aat gtg gtt	624
Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala Ala Thr Asn Val Val	
195 200 205	
ggt tcc ttg att ata gtt cta gta tct tat ttc aat att gtt ttg tct	672
Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser	
210 215 220	
att tta aaa ata tgt tca tca gaa gga agg aaa aaa gcc ttt tct acc	720
Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr	
225 230 235 240	
tgt gct tca cat atg atg gca gtc aca att ttt tat ggg aca ttg cta	768
Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu	
245 250 255	
ttc atg tat gtg cag ccc cga agt aac cat tca ttg gat act gat gat	816
Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser Leu Asp Thr Asp Asp	
260 265 270	
aag atg gct tct gtg ttt tac acg ttg gta att cct atg ctg aat ccc	864
Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro	

275                      280                      285  
 ttg atc tac agc ctg agg aat aag gat gtg aag act gct cta cag aga 912  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg  
     290                      295                      300  
 ttc atg aca aat ctg tgc tat tcc ttt aaa aca atg taa 951  
 Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met  
 305                      310                      315

<210> 64  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 64

Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly  
 1                      5                      10                      15

Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu  
                     20                      25                      30

Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu  
                     35                      40                      45

Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln  
                     50                      55                      60

His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys  
                     65                      70                      75                      80

Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu  
                     85                      90                      95

Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val  
                     100                      105                      110

Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Asn  
                     115                      120                      125

Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu  
                     130                      135                      140

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser  
                     145                      150                      155                      160

Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His  
                     165                      170                      175

Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
 180 185 190

Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala Ala Thr Asn Val Val  
 195 200 205

Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser  
 210 215 220

Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu  
 245 250 255

Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser Leu Asp Thr Asp Asp  
 260 265 270

Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg  
 290 295 300

Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met  
 305 310 315

<210> 65  
 <211> 987  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(984)  
 <223>

<400> 65  
 atg aag ctg tgg atg gag agt cac ctg ata gtc cca gaa acc cgt ccc 48  
 Met Lys Leu Trp Met Glu Ser His Leu Ile Val Pro Glu Thr Arg Pro  
 1 5 10 15  
 agc cca agg atg atg agt aac cag acg ttg gta acc gag ttc atc ctg 96  
 Ser Pro Arg Met Met Ser Asn Gln Thr Leu Val Thr Glu Phe Ile Leu  
 20 25 30  
 cag ggc ttt tcg gag cac cca gaa tac cgg gtg ttc tta ttc agc tgt 144  
 Gln Gly Phe Ser Glu His Pro Glu Tyr Arg Val Phe Leu Phe Ser Cys  
 35 40 45

ttc ctc ttc ctc tac tct ggg gcc ctc aca ggt aat gtc ctc atc acc Phe Leu Phe Leu Tyr Ser Gly Ala Leu Thr Gly Asn Val Leu Ile Thr 50 55 60	192
ttg gcc atc acg ttc aac cct ggg ctc cac gct cct atg tac ttt ttc Leu Ala Ile Thr Phe Asn Pro Gly Leu His Ala Pro Met Tyr Phe Phe 65 70 75 80	240
tta ctc aac ttg gct act atg gac att atc tgc acc tct tcc atc atg Leu Leu Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Ile Met 85 90 95	288
ccc aag gcg ctg gcc agt ctg gtg tgc gaa gag agc tcc atc tcc tac Pro Lys Ala Leu Ala Ser Leu Val Ser Glu Glu Ser Ser Ile Ser Tyr 100 105 110	336
ggg ggc tgc atg gcc cag ctc tat ttc ctc acg tgg gct gca tcc tca Gly Gly Cys Met Ala Gln Leu Tyr Phe Leu Thr Trp Ala Ala Ser Ser 115 120 125	384
gag ctg ctg ctc ctc acg gtc atg gcc tat gac cgg tac gca gcc atc Glu Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile 130 135 140	432
tgc cac ccg ctg cat tac agc agc atg atg agc aag gtg ttc tgc agc Cys His Pro Leu His Tyr Ser Ser Met Met Ser Lys Val Phe Cys Ser 145 150 155 160	480
ggg ctg gcc aca gcc gtg tgg ctg ctc tgc gcc gtc aac acg gcc atc Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala Ile 165 170 175	528
cac acg ggg ctg atg ctg cgc ttg gat ttc tgt ggc ccc aat gtc att His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val Ile 180 185 190	576
atc cat ttc ttc tgc gag gtc cct ccc ctg ctg ctt ctc tcc tgc agc Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Leu Ser Cys Ser 195 200 205	624
tcc acc tac gtc aac ggt gtc atg att gtc ctg gcg gat gct ttc tac Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe Tyr 210 215 220	672
ggc ata gtg aac ttc ctg atg acc atc gcg tcc tat ggc ttc atc gtc Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile Val 225 230 235 240	720
tcc agc atc ctg aag gtg aag act gcc tgg ggg agg cag aaa gcc ttc Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala Phe 245 250 255	768
tcc acc tgc tct tcc cac ctc acc gtg gtg tgc atg tat tac acc gct Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr Ala 260 265 270	816
gtc ttc tac gcc tac ata agc ccg gtc tct ggc tac agc gca ggg aag Val Phe Tyr Ala Tyr Ile Ser Pro Val Ser Gly Tyr Ser Ala Gly Lys 275 280 285	864
agc aag ttg gct ggc ctg ctg tac act gtg ctg agt cct acc ctc aac	912

Ser Lys Leu Ala Gly Leu Leu Tyr Thr Val Leu Ser Pro Thr Leu Asn  
 290 295 300

ccc ctc atc tat act ttg aga aac aag gag gtc aaa gca gcc ctc agg 960  
 Pro Leu Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Leu Arg  
 305 310 315 320

aag ctt ttc cct ttc ttc aga aat taa 987  
 Lys Leu Phe Pro Phe Phe Arg Asn  
 325

<210> 66  
 <211> 328  
 <212> PRT  
 <213> Homo Sapiens

<400> 66

Met Lys Leu Trp Met Glu Ser His Leu Ile Val Pro Glu Thr Arg Pro  
 1 5 10 15

Ser Pro Arg Met Met Ser Asn Gln Thr Leu Val Thr Glu Phe Ile Leu  
 20 25 30

Gln Gly Phe Ser Glu His Pro Glu Tyr Arg Val Phe Leu Phe Ser Cys  
 35 40 45

Phe Leu Phe Leu Tyr Ser Gly Ala Leu Thr Gly Asn Val Leu Ile Thr  
 50 55 60

Leu Ala Ile Thr Phe Asn Pro Gly Leu His Ala Pro Met Tyr Phe Phe  
 65 70 75 80

Leu Leu Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Ile Met  
 85 90 95

Pro Lys Ala Leu Ala Ser Leu Val Ser Glu Glu Ser Ser Ile Ser Tyr  
 100 105 110

Gly Gly Cys Met Ala Gln Leu Tyr Phe Leu Thr Trp Ala Ala Ser Ser  
 115 120 125

Glu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile  
 130 135 140

Cys His Pro Leu His Tyr Ser Ser Met Met Ser Lys Val Phe Cys Ser  
 145 150 155 160

Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala Ile  
 165 170 175

His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val Ile  
 180 185 190

Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Leu Ser Cys Ser  
 195 200 205

Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe Tyr  
 210 215 220

Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile Val  
 225 230 235 240

Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala Phe  
 245 250 255

Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr Ala  
 260 265 270

Val Phe Tyr Ala Tyr Ile Ser Pro Val Ser Gly Tyr Ser Ala Gly Lys  
 275 280 285

Ser Lys Leu Ala Gly Leu Leu Tyr Thr Val Leu Ser Pro Thr Leu Asn  
 290 295 300

Pro Leu Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Leu Arg  
 305 310 315 320

Lys Leu Phe Pro Phe Phe Arg Asn  
 325

<210> 67  
 <211> 960  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(957)  
 <223>

<400> 67  
 atg aca cct gga gaa cta gcc ctt gcc agt ggc aac cac acc cca gtc 48  
 Met Thr Pro Gly Glu Leu Ala Leu Ala Ser Gly Asn His Thr Pro Val  
 1 5 10 15

acc aag ttc atc ttg cag gga ttc tcc aat tat cca gac ctc cag gag 96  
 Thr Lys Phe Ile Leu Gln Gly Phe Ser Asn Tyr Pro Asp Leu Gln Glu  
 20 25 30



ctt ctc ttc gga gcc atc ctg ctc atc tat gcc ata aca gtg gtg ggc Leu Leu Phe Gly Ala Ile Leu Leu Ile Tyr Ala Ile Thr Val Val Gly 35 40 45	144
aac ttg gga atg atg gca ctc atc ttc aca gac tcc cat ctc caa agc Asn Leu Gly Met Met Ala Leu Ile Phe Thr Asp Ser His Leu Gln Ser 50 55 60	192
cca atg tat ttc ttc ctc aat gtc ctc tcg ttt ctt gat att tgt tac Pro Met Tyr Phe Phe Leu Asn Val Leu Ser Phe Leu Asp Ile Cys Tyr 65 70 75 80	240
tct tct gtg gtc aca cct aag ctc ttg gtc aac ttc ctg gtc tct gac Ser Ser Val Val Thr Pro Lys Leu Leu Val Asn Phe Leu Val Ser Asp 85 90 95	288
aag tcc atc tct ttt gag ggc tgt gtg gtc cag ctc gcc ttc ttt gta Lys Ser Ile Ser Phe Glu Gly Cys Val Val Gln Leu Ala Phe Phe Val 100 105 110	336
gtg cat gtg aca gct gag agc ttc ctg ctg gcc tcc atg gcc tat gac Val His Val Thr Ala Glu Ser Phe Leu Leu Ala Ser Met Ala Tyr Asp 115 120 125	384
cgc ttc cta gcc atc tgt caa ccc ctc cat tat ggt tct atc atg acc Arg Phe Leu Ala Ile Cys Gln Pro Leu His Tyr Gly Ser Ile Met Thr 130 135 140	432
agg ggg acc tgt ctc cag ctg gta gct gtg tcc tat gca ttt ggt gga Arg Gly Thr Cys Leu Gln Leu Val Ala Val Ser Tyr Ala Phe Gly Gly 145 150 155 160	480
gcc aac tcc gct atc cag act gga aat gtc ttt gcc ctg cct ttc tgt Ala Asn Ser Ala Ile Gln Thr Gly Asn Val Phe Ala Leu Pro Phe Cys 165 170 175	528
ggg ccc aac cag cta aca cac tac tac tgt gac ata cca ccc ctt ctc Gly Pro Asn Gln Leu Thr His Tyr Tyr Cys Asp Ile Pro Pro Leu Leu 180 185 190	576
cac ctg gct tgt gcc aac aca gcc aca gca aga gtg gtc ctc tat gtc His Leu Ala Cys Ala Asn Thr Ala Thr Ala Arg Val Val Leu Tyr Val 195 200 205	624
ttt tct gct ctg gtc acc ctt ctg cct gct gca gtc att ctc acc tcc Phe Ser Ala Leu Val Thr Leu Leu Pro Ala Ala Val Ile Leu Thr Ser 210 215 220	672
tac tgc ttg gtc ttg gtg gcc att ggg agg atg cgc tca gta gca ggg Tyr Cys Leu Val Leu Val Ala Ile Gly Arg Met Arg Ser Val Ala Gly 225 230 235 240	720
agg gag aag gac ctc tcc act tgt gcc tcc cac ttt ctg gcc att gcc Arg Glu Lys Asp Leu Ser Thr Cys Ala Ser His Phe Leu Ala Ile Ala 245 250 255	768
att ttc tat ggc acc gtg gtt ttc acc tat gtt cag ccc cat gga tct Ile Phe Tyr Gly Thr Val Val Phe Thr Tyr Val Gln Pro His Gly Ser 260 265 270	816

act aac aat acc aat ggc caa gta gtg tcc gtc ttc tac acc atc ata 864  
 Thr Asn Asn Thr Asn Gly Gln Val Val Ser Val Phe Tyr Thr Ile Ile  
 275 280 285

att ccc atg ctc aat ccc ttc atc tat agc ctc cgc aac aag gag gtg 912  
 Ile Pro Met Leu Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Glu Val  
 290 295 300

aag ggc gct ctg cag agg aag ctt cag gtc aac atc ttt ccc ggc tga 960  
 Lys Gly Ala Leu Gln Arg Lys Leu Gln Val Asn Ile Phe Pro Gly  
 305 310 315

<210> 68  
 <211> 319  
 <212> PRT  
 <213> Homo Sapiens

<400> 68

Met Thr Pro Gly Glu Leu Ala Leu Ala Ser Gly Asn His Thr Pro Val  
 1 5 10 15

Thr Lys Phe Ile Leu Gln Gly Phe Ser Asn Tyr Pro Asp Leu Gln Glu  
 20 25 30

Leu Leu Phe Gly Ala Ile Leu Leu Ile Tyr Ala Ile Thr Val Val Gly  
 35 40 45

Asn Leu Gly Met Met Ala Leu Ile Phe Thr Asp Ser His Leu Gln Ser  
 50 55 60

Pro Met Tyr Phe Phe Leu Asn Val Leu Ser Phe Leu Asp Ile Cys Tyr  
 65 70 75 80

Ser Ser Val Val Thr Pro Lys Leu Leu Val Asn Phe Leu Val Ser Asp  
 85 90 95

Lys Ser Ile Ser Phe Glu Gly Cys Val Val Gln Leu Ala Phe Phe Val  
 100 105 110

Val His Val Thr Ala Glu Ser Phe Leu Leu Ala Ser Met Ala Tyr Asp  
 115 120 125

Arg Phe Leu Ala Ile Cys Gln Pro Leu His Tyr Gly Ser Ile Met Thr  
 130 135 140

Arg Gly Thr Cys Leu Gln Leu Val Ala Val Ser Tyr Ala Phe Gly Gly  
 145 150 155 160

Ala Asn Ser Ala Ile Gln Thr Gly Asn Val Phe Ala Leu Pro Phe Cys

165	170	175	
Gly Pro Asn Gln Leu Thr His Tyr	Tyr Cys Asp Ile Pro Pro Leu Leu		
180	185	190	
His Leu Ala Cys Ala Asn Thr Ala Thr Ala Arg Val Val Leu Tyr Val			
195	200	205	
Phe Ser Ala Leu Val Thr Leu Leu Pro Ala Ala Val Ile Leu Thr Ser			
210	215	220	
Tyr Cys Leu Val Leu Val Ala Ile Gly Arg Met Arg Ser Val Ala Gly			
225	230	235	240
Arg Glu Lys Asp Leu Ser Thr Cys Ala Ser His Phe Leu Ala Ile Ala			
245	250	255	
Ile Phe Tyr Gly Thr Val Val Phe Thr Tyr Val Gln Pro His Gly Ser			
260	265	270	
Thr Asn Asn Thr Asn Gly Gln Val Val Ser Val Phe Tyr Thr Ile Ile			
275	280	285	
Ile Pro Met Leu Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Glu Val			
290	295	300	
Lys Gly Ala Leu Gln Arg Lys Leu Gln Val Asn Ile Phe Pro Gly			
305	310	315	
<210> 69			
<211> 939			
<212> DNA			
<213> Homo Sapiens			
<220>			
<221> CDS			
<222> (1)..(936)			
<223>			
<400> 69			
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Met Arg Asn Gly Thr Val Ile Thr Glu Phe Ile Leu Leu Gly Phe Pro			
1	5	10	15
gtt atc caa ggc cta caa aca cct ctc ttt att gca atc ttt ctc acc			96
Val Ile Gln Gly Thr Leu Gln Thr Pro Leu Phe Ile Ala Ile Phe Leu Thr			
20	25	30	
tac ata tta acc ctt gca ggc aat ggg ctt att att gcc act gtg tgg			144
Tyr Ile Leu Thr Leu Ala Gly Asn Gly Leu Ile Ile Ala Thr Val Trp			

35	40	45	
gct gag ccc agg cta caa att cca atg tac ttc ttc ctt tgt aac ttg Ala Glu Pro Arg Leu Gln Ile Pro Met Tyr Phe Phe Leu Cys Asn Leu 50 55 60			192
tct ttc tta gaa atc tgg tac acc acc aca gtc atc ccc aaa ctg cta Ser Phe Leu Glu Ile Trp Tyr Thr Thr Thr Val Ile Pro Lys Leu Leu 65 70 75 80			240
gga acc ttt gta gtg gca aga aca gta atc tgc atg tcc tgc tgc ctg Gly Thr Phe Val Val Ala Arg Thr Val Ile Cys Met Ser Cys Cys Leu 85 90 95			288
ctg cag gcc ttc ttc cac ttc ttc gtg ggc acc acc gag ttc ttg atc Leu Gln Ala Phe Phe His Phe Phe Val Gly Thr Thr Glu Phe Leu Ile 100 105 110			336
ctc act atc atg tct ttt gac cgc tac ctc acc atc tgc aat ccc ctt Leu Thr Ile Met Ser Phe Asp Arg Tyr Leu Thr Ile Cys Asn Pro Leu 115 120 125			384
cac cac ccc acc atc atg acc agc aaa ctc tgc ctg cag ctg gcc ctg His His Pro Thr Ile Met Thr Ser Lys Leu Cys Leu Gln Leu Ala Leu 130 135 140			432
agc tcc tgg gtg gtg ggc ttc acc att gtc ttt tgt cag acg atg ctg Ser Ser Trp Val Val Gly Phe Thr Ile Val Phe Cys Gln Thr Met Leu 145 150 155 160			480
ctc atc cag ttg cca ttc tgt ggc aat aat gtt atc agt cat ttc tac Leu Ile Gln Leu Pro Phe Cys Gly Asn Asn Val Ile Ser His Phe Tyr 165 170 175			528
tgt gat gtt ggg ccc agt ttg aaa gcc gcc tgc ata gac acc agc att Cys Asp Val Gly Pro Ser Leu Lys Ala Ala Cys Ile Asp Thr Ser Ile 180 185 190			576
ttg gaa ctc ctg ggc gtc ata gca acc atc ctt gtg atc cca ggg tca Leu Glu Leu Leu Gly Val Ile Ala Thr Ile Leu Val Ile Pro Gly Ser 195 200 205			624
ctt ctc ttt aat atg att tct tat atc tac att ctg tcc gca atc cta Leu Leu Phe Asn Met Ile Ser Tyr Ile Tyr Ile Leu Ser Ala Ile Leu 210 215 220			672
cga att cct tca gcc act ggc cac caa aag act ttc tct acc tgt gcc Arg Ile Pro Ser Ala Thr Gly His Gln Lys Thr Phe Ser Thr Cys Ala 225 230 235 240			720
tcg cac ctg aca gtt gtc tcc ctg ctc tac ggg gct gtt ctg ttc atg Ser His Leu Thr Val Val Ser Leu Leu Tyr Gly Ala Val Leu Phe Met 245 250 255			768
tac cta aga ccc aca gca cac tcc tcc ttt aag att aat aag gtg gtg Tyr Leu Arg Pro Thr Ala His Ser Ser Phe Lys Ile Asn Lys Val Val 260 265 270			816
tct gtg cta aat act atc ctc acc ccc ctt ctg aat ccc ttt att tat Ser Val Leu Asn Thr Ile Leu Thr Pro Leu Leu Asn Pro Phe Ile Tyr 275 280 285			864

act att aga aac aag gag gtg aag gga gcc tta aga aag gca atg act 912  
 Thr Ile Arg Asn Lys Glu Val Lys Gly Ala Leu Arg Lys Ala Met Thr  
 290 295 300

tgc cca aag act ggt cat gca aag taa 939  
 Cys Pro Lys Thr Gly His Ala Lys  
 305 310

<210> 70  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 70

Met Arg Asn Gly Thr Val Ile Thr Glu Phe Ile Leu Leu Gly Phe Pro  
 1 5 10 15

Val Ile Gln Gly Leu Gln Thr Pro Leu Phe Ile Ala Ile Phe Leu Thr  
 20 25 30

Tyr Ile Leu Thr Leu Ala Gly Asn Gly Leu Ile Ile Ala Thr Val Trp  
 35 40 45

Ala Glu Pro Arg Leu Gln Ile Pro Met Tyr Phe Phe Leu Cys Asn Leu  
 50 55 60

Ser Phe Leu Glu Ile Trp Tyr Thr Thr Thr Val Ile Pro Lys Leu Leu  
 65 70 75 80

Gly Thr Phe Val Val Ala Arg Thr Val Ile Cys Met Ser Cys Cys Leu  
 85 90 95

Leu Gln Ala Phe Phe His Phe Phe Val Gly Thr Thr Glu Phe Leu Ile  
 100 105 110

Leu Thr Ile Met Ser Phe Asp Arg Tyr Leu Thr Ile Cys Asn Pro Leu  
 115 120 125

His His Pro Thr Ile Met Thr Ser Lys Leu Cys Leu Gln Leu Ala Leu  
 130 135 140

Ser Ser Trp Val Val Gly Phe Thr Ile Val Phe Cys Gln Thr Met Leu  
 145 150 155 160

Leu Ile Gln Leu Pro Phe Cys Gly Asn Asn Val Ile Ser His Phe Tyr  
 165 170 175

Cys Asp Val Gly Pro Ser Leu Lys Ala Ala Cys Ile Asp Thr Ser Ile  
180 185 190

Leu Glu Leu Leu Gly Val Ile Ala Thr Ile Leu Val Ile Pro Gly Ser  
195 200 205

Leu Leu Phe Asn Met Ile Ser Tyr Ile Tyr Ile Leu Ser Ala Ile Leu  
210 215 220

Arg Ile Pro Ser Ala Thr Gly His Gln Lys Thr Phe Ser Thr Cys Ala  
225 230 235 240

Ser His Leu Thr Val Val Ser Leu Leu Tyr Gly Ala Val Leu Phe Met  
245 250 255

Tyr Leu Arg Pro Thr Ala His Ser Ser Phe Lys Ile Asn Lys Val Val  
260 265 270

Ser Val Leu Asn Thr Ile Leu Thr Pro Leu Leu Asn Pro Phe Ile Tyr  
275 280 285

Thr Ile Arg Asn Lys Glu Val Lys Gly Ala Leu Arg Lys Ala Met Thr  
290 295 300

Cys Pro Lys Thr Gly His Ala Lys  
305 310

<210> 71  
<211> 1038  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(1035)  
<223>

<400> 71  
atg aat atc aca ctt tat tca ttt ctt tat gtc ctc aga tta aat gaa 48  
Met Asn Ile Thr Leu Tyr Ser Phe Leu Tyr Val Leu Arg Leu Asn Glu  
1 5 10 15

ggg aat agt act gga aga aat ata gat gaa aga aag aaa atg caa gga 96  
Gly Asn Ser Thr Gly Arg Asn Ile Asp Glu Arg Lys Lys Met Gln Gly  
20 25 30

gaa aac ttc acc att tgg agc att ttt ttc ttg gag gga ttt tcc cag 144  
Glu Asn Phe Thr Ile Trp Ser Ile Phe Phe Leu Glu Gly Phe Ser Gln  
35 40 45

tac cca ggg tta gaa gtg gtt ctc ttc gtc ttc agc ctt gta atg tat 192

Tyr	Pro	Gly	Leu	Glu	Val	Val	Leu	Phe	Val	Phe	Ser	Leu	Val	Met	Tyr		
50						55					60						
ctg	aca	acg	ctc	ttg	ggc	aac	agc	act	ctt	att	ttg	atc	act	atc	cta		240
Leu	Thr	Thr	Leu	Leu	Gly	Asn	Ser	Thr	Leu	Ile	Leu	Ile	Thr	Ile	Leu		
65					70					75					80		
gat	tca	cgc	ctt	aaa	acc	ccc	atg	tac	tta	ttc	ctt	gga	aat	ctc	tct		288
Asp	Ser	Arg	Leu	Lys	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Gly	Asn	Leu	Ser		
				85					90					95			
ttc	atg	gat	att	tgt	tac	aca	tct	gcc	tct	gtt	cct	act	ttg	ctg	gtg		336
Phe	Met	Asp	Ile	Cys	Tyr	Thr	Ser	Ala	Ser	Val	Pro	Thr	Leu	Leu	Val		
			100					105					110				
aac	ttg	ctg	tca	tcc	cag	aaa	acc	att	atc	ttt	tct	ggg	tgt	gct	gta		384
Asn	Leu	Leu	Ser	Ser	Gln	Lys	Thr	Ile	Ile	Phe	Ser	Gly	Cys	Ala	Val		
		115					120					125					
cag	atg	tat	ctg	tcc	ctt	gcc	atg	ggc	tcc	aca	gag	tgt	gtg	ctc	ctg		432
Gln	Met	Tyr	Leu	Ser	Leu	Ala	Met	Gly	Ser	Thr	Glu	Cys	Val	Leu	Leu		
	130					135					140						
gcc	gtg	atg	gca	tat	gac	cgt	tat	gtg	gcc	att	tgt	aac	ccg	ctg	aga		480
Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	Pro	Leu	Arg		
145					150				155					160			
tac	tcc	atc	atc	atg	aac	agg	tgc	gtc	tgt	gca	cgg	atg	gcc	acg	gtc		528
Tyr	Ser	Ile	Ile	Met	Asn	Arg	Cys	Val	Cys	Ala	Arg	Met	Ala	Thr	Val		
				165					170					175			
tcc	tgg	gtg	acg	ggc	tgc	ctg	acc	gct	ctg	ctg	gaa	acc	agt	ttt	gcc		576
Ser	Trp	Val	Thr	Gly	Cys	Leu	Thr	Ala	Leu	Leu	Glu	Thr	Ser	Phe	Ala		
		180						185					190				
ctg	cag	ata	ccc	ctc	tgt	ggg	aat	ctc	atc	gat	cac	ttc	acg	tgt	gaa		624
Leu	Gln	Ile	Pro	Leu	Cys	Gly	Asn	Leu	Ile	Asp	His	Phe	Thr	Cys	Glu		
		195					200					205					
att	ctg	gcg	gtg	cta	aag	tta	gct	tgc	aca	agt	tca	ctg	ctc	atg	aac		672
Ile	Leu	Ala	Val	Leu	Lys	Leu	Ala	Cys	Thr	Ser	Ser	Leu	Leu	Met	Asn		
	210					215					220						
acc	atc	atg	ctg	gtg	gtc	agc	att	ctc	ctc	ttg	cca	att	cca	atg	ctc		720
Thr	Ile	Met	Leu	Val	Val	Ser	Ile	Leu	Leu	Leu	Pro	Ile	Pro	Met	Leu		
225					230					235				240			
tta	gtt	tgc	atc	tct	tac	atc	ttc	atc	ctt	tcc	act	att	ctg	aga	atc		768
Leu	Val	Cys	Ile	Ser	Tyr	Ile	Phe	Ile	Leu	Ser	Thr	Ile	Leu	Arg	Ile		
				245					250					255			
acc	tca	gca	gag	gga	aga	aac	aag	gct	ttt	tct	acc	tgt	ggc	cat			816
Thr	Ser	Ala	Glu	Gly	Arg	Asn	Lys	Ala	Phe	Ser	Thr	Cys	Gly	Ala	His		
		260					265						270				
ttg	act	gtg	gtg	att	ttg	tat	tat	ggg	gct	gcc	ctc	tct	atg	tac	cta		864
Leu	Thr	Val	Val	Ile	Leu	Tyr	Tyr	Gly	Ala	Ala	Leu	Ser	Met	Tyr	Leu		
		275				280						285					
aag	cct	tct	tca	tca	aat	gca	caa	aaa	ata	gac	aaa	atc	atc	tcg	ttg		912
Lys	Pro	Ser	Ser	Ser	Asn	Ala	Gln	Lys	Ile	Asp	Lys	Ile	Ile	Ser	Leu		

290 295 300

ctt tac gga gtg ctt acc cct atg ttg aac ccc ata att tac agt tta 960  
 Leu Tyr Gly Val Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu  
 305 310 315 320

aga aac aag gaa gtc aaa gat gct atg aag aaa ttg ctg ggc aaa ata 1008  
 Arg Asn Lys Glu Val Lys Asp Ala Met Lys Lys Leu Leu Gly Lys Ile  
 325 330 335

aca ttg cat caa aca cac gaa cat ctc tga 1038  
 Thr Leu His Gln Thr His Glu His Leu  
 340 345

<210> 72  
 <211> 345  
 <212> PRT  
 <213> Homo Sapiens

<400> 72

Met Asn Ile Thr Leu Tyr Ser Phe Leu Tyr Val Leu Arg Leu Asn Glu  
 1 5 10 15

Gly Asn Ser Thr Gly Arg Asn Ile Asp Glu Arg Lys Lys Met Gln Gly  
 20 25 30

Glu Asn Phe Thr Ile Trp Ser Ile Phe Phe Leu Glu Gly Phe Ser Gln  
 35 40 45

Tyr Pro Gly Leu Glu Val Val Leu Phe Val Phe Ser Leu Val Met Tyr  
 50 55 60

Leu Thr Thr Leu Leu Gly Asn Ser Thr Leu Ile Leu Ile Thr Ile Leu  
 65 70 75 80

Asp Ser Arg Leu Lys Thr Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser  
 85 90 95

Phe Met Asp Ile Cys Tyr Thr Ser Ala Ser Val Pro Thr Leu Leu Val  
 100 105 110

Asn Leu Leu Ser Ser Gln Lys Thr Ile Ile Phe Ser Gly Cys Ala Val  
 115 120 125

Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys Val Leu Leu  
 130 135 140

Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu Arg  
 145 150 155 160



Tyr Ser Ile Ile Met Asn Arg Cys Val Cys Ala Arg Met Ala Thr Val  
                   165                  170                  175

Ser Trp Val Thr Gly Cys Leu Thr Ala Leu Leu Glu Thr Ser Phe Ala  
                   180                  185                  190

Leu Gln Ile Pro Leu Cys Gly Asn Leu Ile Asp His Phe Thr Cys Glu  
                   195                  200                  205

Ile Leu Ala Val Leu Lys Leu Ala Cys Thr Ser Ser Leu Leu Met Asn  
                   210                  215                  220

Thr Ile Met Leu Val Val Ser Ile Leu Leu Leu Pro Ile Pro Met Leu  
                   225                  230                  235                  240

Leu Val Cys Ile Ser Tyr Ile Phe Ile Leu Ser Thr Ile Leu Arg Ile  
                   245                  250                  255

Thr Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser Thr Cys Gly Ala His  
                   260                  265                  270

Leu Thr Val Val Ile Leu Tyr Tyr Gly Ala Ala Leu Ser Met Tyr Leu  
                   275                  280                  285

Lys Pro Ser Ser Ser Asn Ala Gln Lys Ile Asp Lys Ile Ile Ser Leu  
                   290                  295                  300

Leu Tyr Gly Val Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu  
                   305                  310                  315                  320

Arg Asn Lys Glu Val Lys Asp Ala Met Lys Lys Leu Leu Gly Lys Ile  
                   325                  330                  335

Thr Leu His Gln Thr His Glu His Leu  
                   340                  345

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 <212> DNA  
 <213> Homo Sapiens

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 <222> (1) .. (927)  
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<400> 73

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Met Lys Arg Lys Asn Phe Thr Glu Val Ser Glu Phe Ile Phe Leu Gly	
1 5 10 15	
ttt tct agc ttt gga aag cat cag ata acc ctc ttt gtg gtt ttc cta	96
Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu	
20 25 30	
act gtc tac att tta act ctg gtt gct aac atc atc att gtg act atc	144
Thr Val Tyr Ile Leu Thr Leu Val Ala Asn Ile Ile Ile Val Thr Ile	
35 40 45	
atc tgc att gac cat cat ctc cac act ccc atg tat ttc ttc cta agc	192
Ile Cys Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
atg ctg gct agt tca gag acg gtg tac aca ctg gtc att gtg cca cga	240
Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg	
65 70 75 80	
atg ctt ttg agc ctc att ttt cat aac caa cct atc tcc ttg gca ggc	288
Met Leu Leu Ser Leu Ile Phe His Asn Gln Pro Ile Ser Leu Ala Gly	
85 90 95	
tgt gct aca caa atg ttc ttt ttt gtt atc ttg gcc act aat aat tgc	336
Cys Ala Thr Gln Met Phe Phe Phe Val Ile Leu Ala Thr Asn Asn Cys	
100 105 110	
ttc ctg ctt act gca atg ggg tat gac cgc tat gtg gcc atc tgc aga	384
Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Arg	
115 120 125	
ccc ctg aga tac act gtc atc atg agc aag gga cta tgt gcc cag ctg	432
Pro Leu Arg Tyr Thr Val Ile Met Ser Lys Gly Leu Cys Ala Gln Leu	
130 135 140	
gtg tgt ggg tcc ttt ggc att ggt ctg act atg gca gtt ctc cat gtg	480
Val Cys Gly Ser Phe Gly Ile Gly Leu Thr Met Ala Val Leu His Val	
145 150 155 160	
aca gcc atg ttc aat ttg ccg ttc tgt ggc aca gtg gta gac cac ttc	528
Thr Ala Met Phe Asn Leu Pro Phe Cys Gly Thr Val Val Asp His Phe	
165 170 175	
ttt tgt gac att tac cca gtc atg aaa ctt tct tgc att gat acc act	576
Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Ile Asp Thr Thr	
180 185 190	
atc aat gag ata ata aat tat ggt gta agt tca ttt gtg att ttt gtg	624
Ile Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Phe Val	
195 200 205	
ccc ata ggc ctg ata ttt atc tcc tat gtc ctt gtc atc tct tcc atc	672
Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Val Ile Ser Ser Ile	
210 215 220	
ctt caa att gcc tca gct gag ggc cgg aag aag acc ttt gcc acc tgt	720
Leu Gln Ile Ala Ser Ala Glu Gly Arg Lys Lys Thr Phe Ala Thr Cys	
225 230 235 240	
gtc tcc cac ctc act gtg gtt att gtc cac tgt ggc tgt gcc tcc att	768

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<210> 74
<211> 309
<212> PRT
<213> Homo Sapiens
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Met Lys Arg Lys Asn Phe Thr Glu Val Ser Glu Phe Ile Phe Leu Gly  
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Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu  
20 25 30

Thr Val Tyr Ile Leu Thr Leu Val Ala Asn Ile Ile Ile Val Thr Ile  
35 40 45

Ile Cys Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
50 55 60

Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg  
65 70 75 80

Met Leu Leu Ser Leu Ile Phe His Asn Gln Pro Ile Ser Leu Ala Gly  
85 90 95

Cys Ala Thr Gln Met Phe Phe Phe Val Ile Leu Ala Thr Asn Asn Cys  
100 105 110

Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Arg  
115 120 125

Pro Leu Arg Tyr Thr Val Ile Met Ser Lys Gly Leu Cys Ala Gln Leu  
130 135 140

Val Cys Gly Ser Phe Gly Ile Gly Leu Thr Met Ala Val Leu His Val  
145 150 155 160

Thr Ala Met Phe Asn Leu Pro Phe Cys Gly Thr Val Val Asp His Phe  
165 170 175

Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Ile Asp Thr Thr  
180 185 190

Ile Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Phe Val  
195 200 205

Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Val Ile Ser Ser Ile  
210 215 220

Leu Gln Ile Ala Ser Ala Glu Gly Arg Lys Lys Thr Phe Ala Thr Cys  
225 230 235 240

Val Ser His Leu Thr Val Val Ile Val His Cys Gly Cys Ala Ser Ile  
245 250 255

Ala Tyr Leu Lys Pro Lys Ser Glu Ser Ser Ile Glu Lys Asp Leu Val  
260 265 270

Leu Ser Val Thr Tyr Thr Ile Ile Thr Pro Leu Leu Asn Pro Val Val  
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Leu Cys Arg Val Val  
290 295 300

Gly Arg Asn Ile Ser  
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<210> 75  
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1 5 10 15

48

ctc ttc agt cac tca gga tca cgc cag ctc ctc ttc tcc ctg gtg gct Leu Phe Ser His Ser Gly Ser Arg Gln Leu Leu Phe Ser Leu Val Ala 20 25 30	96
gtc atg ttt gtc ata ggc ctt ctg ggc aac acc gtt ctt ctc ttc ttg Val Met Phe Val Ile Gly Leu Leu Gly Asn Thr Val Leu Leu Phe Leu 35 40 45	144
atc cgt gtg gac tcc cgg ctc cac aca ccc atg tac ttc ctg ctc agc Ile Arg Val Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser 50 55 60	192
cag ctc tcc ctg ttt gac att ggc tgt ccc atg gtc acc atc ccc aag Gln Leu Ser Leu Phe Asp Ile Gly Cys Pro Met Val Thr Ile Pro Lys 65 70 75 80	240
atg gca tca gac ttt ctg cgg gga gaa ggt gcc acc tcc tat gga ggt Met Ala Ser Asp Phe Leu Arg Gly Glu Gly Ala Thr Ser Tyr Gly Gly 85 90 95	288
ggg gca gct caa ata ttc ttc ctc aca ctg atg ggt gtg gct gag ggc Gly Ala Ala Gln Ile Phe Phe Leu Thr Leu Met Gly Val Ala Glu Gly 100 105 110	336
gtc ctg ttg gtc ctc atg tct tat gac cgt tat gtt gct gtg tgc cag Val Leu Leu Val Leu Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Gln 115 120 125	384
ccc ctg cag tat cct gta ctt atg aga cgc cag gta tgt ctg ctg atg Pro Leu Gln Tyr Pro Val Leu Met Arg Arg Gln Val Cys Leu Leu Met 130 135 140	432
atg ggc tcc tcc tgg gtg gta ggt gtg ctc aac gcc tcc atc cag acc Met Gly Ser Ser Trp Val Val Gly Val Leu Asn Ala Ser Ile Gln Thr 145 150 155 160	480
tcc atc acc ctg cat ttt ccc tac tgt gcc tcc cgt att gtg gat cac Ser Ile Thr Leu His Phe Pro Tyr Cys Ala Ser Arg Ile Val Asp His 165 170 175	528
ttc ttc tgt gag gtg cca gcc cta ctg aag ctc tcc tgt gca gat acc Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Ala Asp Thr 180 185 190	576
tgt gcc tac gag atg gcg ctg tcc acc tca ggg gtg ctg atc cta atg Cys Ala Tyr Glu Met Ala Leu Ser Thr Ser Gly Val Leu Ile Leu Met 195 200 205	624
ctc cct ctt tcc ctc atc gcc acc tcc tac ggc cac gtg ttg cag gct Leu Pro Leu Ser Leu Ile Ala Thr Ser Tyr Gly His Val Leu Gln Ala 210 215 220	672
gtt cta agc atg cgc tca gag gag gcc aga cac aag gct gtc acc acc Val Leu Ser Met Arg Ser Glu Glu Ala Arg His Lys Ala Val Thr Thr 225 230 235 240	720
tgc tcc tcg cac atc acg gta gtg ggg ctc ttt tat ggt gcc gcc gtg Cys Ser Ser His Ile Thr Val Val Gly Leu Phe Tyr Gly Ala Ala Val 245 250 255	768

ttc atg tac atg gtg cct tgc gcc tac cac agt cca cag cag gat aac 816  
 Phe Met Tyr Met Val Pro Cys Ala Tyr His Ser Pro Gln Gln Asp Asn  
                   260                                  265                                  270

gtg gtt tcc ctc ttc tat agc ctt gtc acc cct aca ctc aac ccc ctt 864  
 Val Val Ser Leu Phe Tyr Ser Leu Val Thr Pro Thr Leu Asn Pro Leu  
                   275                                  280                                  285

atc tac agt ctg agg aat ccg gag gtg tgg atg gct ttg gtc aaa gtg 912  
 Ile Tyr Ser Leu Arg Asn Pro Glu Val Trp Met Ala Leu Val Lys Val  
                   290                                  295                                  300

ctt agc aga gct gga ctc agg caa atg tgc tga 945  
 Leu Ser Arg Ala Gly Leu Arg Gln Met Cys  
                   305                                  310

<210> 76

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 76

Met Gly Asp Val Asn Gln Ser Val Ala Ser Asp Phe Ile Leu Val Gly  
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Leu Phe Ser His Ser Gly Ser Arg Gln Leu Leu Phe Ser Leu Val Ala  
                   20                                  25                                  30

Val Met Phe Val Ile Gly Leu Leu Gly Asn Thr Val Leu Leu Phe Leu  
                   35                                  40                                  45

Ile Arg Val Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
                   50                                  55                                  60

Gln Leu Ser Leu Phe Asp Ile Gly Cys Pro Met Val Thr Ile Pro Lys  
                   65                                  70                                  75                                  80

Met Ala Ser Asp Phe Leu Arg Gly Glu Gly Ala Thr Ser Tyr Gly Gly  
                   85                                  90                                  95

Gly Ala Ala Gln Ile Phe Phe Leu Thr Leu Met Gly Val Ala Glu Gly  
                   100                                  105                                  110

Val Leu Leu Val Leu Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Gln  
                   115                                  120                                  125

Pro Leu Gln Tyr Pro Val Leu Met Arg Arg Gln Val Cys Leu Leu Met  
                   130                                  135                                  140

Met Gly Ser Ser Trp Val Val Gly Val Leu Asn Ala Ser Ile Gln Thr

145                                      150                                      155                                      160  
 Ser Ile Thr Leu His Phe Pro Tyr Cys Ala Ser Arg Ile Val Asp His  
    165                                      170                                      175  
 Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Ala Asp Thr  
    180                                      185                                      190  
 Cys Ala Tyr Glu Met Ala Leu Ser Thr Ser Gly Val Leu Ile Leu Met  
    195                                      200                                      205  
 Leu Pro Leu Ser Leu Ile Ala Thr Ser Tyr Gly His Val Leu Gln Ala  
    210                                      215                                      220  
 Val Leu Ser Met Arg Ser Glu Glu Ala Arg His Lys Ala Val Thr Thr  
    225                                      230                                      235                                      240  
 Cys Ser Ser His Ile Thr Val Val Gly Leu Phe Tyr Gly Ala Ala Val  
    245                                      250                                      255  
 Phe Met Tyr Met Val Pro Cys Ala Tyr His Ser Pro Gln Gln Asp Asn  
    260                                      265                                      270  
 Val Val Ser Leu Phe Tyr Ser Leu Val Thr Pro Thr Leu Asn Pro Leu  
    275                                      280                                      285  
 Ile Tyr Ser Leu Arg Asn Pro Glu Val Trp Met Ala Leu Val Lys Val  
    290                                      295                                      300  
 Leu Ser Arg Ala Gly Leu Arg Gln Met Cys  
    305                                      310

<210> 77  
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 Met Leu Arg Asn Gly Ser Ile Val Thr Glu Phe Ile Leu Val Gly Phe  
 1                                      5                                      10                                      15  
 cag cag agc tcc act tcc aca cga gca ttg ctc ttt gcc ctc ttc ttg                                      96  
 Gln Gln Ser Ser Thr Ser Thr Arg Ala Leu Leu Phe Ala Leu Phe Leu

20	25	30	
gcc ctc tac agc ctc acc atg gcc atg aat ggc ctc atc atc ttt atc Ala Leu Tyr Ser Leu Thr Met Ala Met Asn Gly Leu Ile Ile Phe Ile 35 40 45			144
acc tcc tgg aca gac ccc aag ctc aac agc ccc atg tac ttc ttc ctc Thr Ser Trp Thr Asp Pro Lys Leu Asn Ser Pro Met Tyr Phe Phe Leu 50 55 60			192
ggc cat ctg tct ctc ctg gat gtc tgc ttc atc acc act acc atc cca Gly His Leu Ser Leu Leu Asp Val Cys Phe Ile Thr Thr Thr Ile Pro 65 70 75 80			240
cag atg ttg atc cac ctc gtg gtc agg gac cac att gtc tcc ttt gta Gln Met Leu Ile His Leu Val Val Arg Asp His Ile Val Ser Phe Val 85 90 95			288
tgt tgc atg acc cag atg tac ttt gtc ttc tgt gtt ggt gtg gcc gag Cys Cys Met Thr Gln Met Tyr Phe Val Phe Cys Val Gly Val Ala Glu 100 105 110			336
tgc atc ctc ttg gct ttc atg gcc tat gac cgt tat gtt gct atc tgc Cys Ile Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys 115 120 125			384
tac cca ctt aac tat gtc ccg atc ata agc cag aag gtc tgt gtc agg Tyr Pro Leu Asn Tyr Val Pro Ile Ile Ser Gln Lys Val Cys Val Arg 130 135 140			432
ctt gtg gga act gcc tgg ttc ttt ggg ctg atc aat ggc atc ttt ctc Leu Val Gly Thr Ala Trp Phe Phe Gly Leu Ile Asn Gly Ile Phe Leu 145 150 155 160			480
gag tat att tca ttc cga gag ccc ttc cgc aga gac aac cac ata gaa Glu Tyr Ile Ser Phe Arg Glu Pro Phe Arg Arg Asp Asn His Ile Glu 165 170 175			528
agc ttc ttc tgt gag gcc ccc ata gtg att ggc ctc tct tgt ggg gac Ser Phe Phe Cys Glu Ala Pro Ile Val Ile Gly Leu Ser Cys Gly Asp 180 185 190			576
cct cag ttt agt ctg tgg gca atc ttt gcc gat gcc atc gtg gta att Pro Gln Phe Ser Leu Trp Ala Ile Phe Ala Asp Ala Ile Val Val Ile 195 200 205			624
ctc agc ccc atg gtg ctc act gtc act tcc tat gtg cac atc ctg gcc Leu Ser Pro Met Val Leu Thr Val Thr Ser Tyr Val His Ile Leu Ala 210 215 220			672
acc atc ctc agc aaa gcc tcc tcc tca ggt cgg ggg aag act ttc tct Thr Ile Leu Ser Lys Ala Ser Ser Ser Gly Arg Gly Lys Thr Phe Ser 225 230 235 240			720
act tgt gcc tct cac ctg act gtg gtc atc ttt ctc tac act tca gct Thr Cys Ala Ser His Leu Thr Val Val Ile Phe Leu Tyr Thr Ser Ala 245 250 255			768
atg ttc tct tac atg aac ccc cac agc aca cat ggg cct gac aaa gac Met Phe Ser Tyr Met Asn Pro His Ser Thr His Gly Pro Asp Lys Asp 260 265 270			816



aaa cct ttc tcc ctc ctg tac acc atc att acc ccc atg tgc aac ccc 864  
 Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro  
           275                                  280                                  285

atc att tat agt ttc cgc aac aag gaa att aag gag gcc atg gtg agg 912  
 Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg  
           290                                  295                                  300

gca ctt gga aga acc agg ctg gcc cag cca cag tct gtc tag 954  
 Ala Leu Gly Arg Thr Arg Leu Ala Gln Pro Gln Ser Val  
           305                                  310                                  315

<210> 78  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 78

Met Leu Arg Asn Gly Ser Ile Val Thr Glu Phe Ile Leu Val Gly Phe  
   1                                  5                                  10                                  15

Gln Gln Ser Ser Thr Ser Thr Arg Ala Leu Leu Phe Ala Leu Phe Leu  
                                   20                                  25                                  30

Ala Leu Tyr Ser Leu Thr Met Ala Met Asn Gly Leu Ile Ile Phe Ile  
           35                                  40                                  45

Thr Ser Trp Thr Asp Pro Lys Leu Asn Ser Pro Met Tyr Phe Phe Leu  
           50                                  55                                  60

Gly His Leu Ser Leu Leu Asp Val Cys Phe Ile Thr Thr Thr Ile Pro  
   65                                  70                                  75                                  80

Gln Met Leu Ile His Leu Val Val Arg Asp His Ile Val Ser Phe Val  
                                   85                                  90                                  95

Cys Cys Met Thr Gln Met Tyr Phe Val Phe Cys Val Gly Val Ala Glu  
           100                                  105                                  110

Cys Ile Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys  
           115                                  120                                  125

Tyr Pro Leu Asn Tyr Val Pro Ile Ile Ser Gln Lys Val Cys Val Arg  
           130                                  135                                  140

Leu Val Gly Thr Ala Trp Phe Phe Gly Leu Ile Asn Gly Ile Phe Leu  
   145                                  150                                  155                                  160

Glu Tyr Ile Ser Phe Arg Glu Pro Phe Arg Arg Asp Asn His Ile Glu  
 165 170 175

Ser Phe Phe Cys Glu Ala Pro Ile Val Ile Gly Leu Ser Cys Gly Asp  
 180 185 190

Pro Gln Phe Ser Leu Trp Ala Ile Phe Ala Asp Ala Ile Val Val Ile  
 195 200 205

Leu Ser Pro Met Val Leu Thr Val Thr Ser Tyr Val His Ile Leu Ala  
 210 215 220

Thr Ile Leu Ser Lys Ala Ser Ser Ser Gly Arg Gly Lys Thr Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Val Val Ile Phe Leu Tyr Thr Ser Ala  
 245 250 255

Met Phe Ser Tyr Met Asn Pro His Ser Thr His Gly Pro Asp Lys Asp  
 260 265 270

Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro  
 275 280 285

Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg  
 290 295 300

Ala Leu Gly Arg Thr Arg Leu Ala Gln Pro Gln Ser Val  
 305 310 315

<210> 79  
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 <212> DNA  
 <213> Homo Sapiens

<220>  
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 Met Gln Leu Asn Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
 1 5 10 15

cag gat cct ttt tgg aag aaa ata gtg ttt gtt att ttt ttg cgt ctc 96  
 Gln Asp Pro Phe Trp Lys Lys Ile Val Phe Val Ile Phe Leu Arg Leu  
 20 25 30

tac ttg gga aca ctg ttg ggt aat ttg cta atc att att agt gtc aag 144

Tyr	Leu	Gly	Thr	Leu	Leu	Gly	Asn	Leu	Leu	Ile	Ile	Ile	Ser	Val	Lys		
	35						40					45					
gcc	agc	cag	gca	ctt	aag	aac	cca	atg	ttc	ttc	ttc	ctt	ttc	tac	tta		192
Ala	Ser	Gln	Ala	Leu	Lys	Asn	Pro	Met	Phe	Phe	Phe	Leu	Phe	Tyr	Leu		
	50					55					60						
tct	tta	tct	gat	act	tgc	ctc	tct	act	tcc	ata	gcc	cct	aga	atg	att		240
Ser	Leu	Ser	Asp	Thr	Cys	Leu	Ser	Thr	Ser	Ile	Ala	Pro	Arg	Met	Ile		
	65				70				75						80		
gtg	gat	gcc	ctt	ttg	aag	aag	aca	act	atc	tcc	ttc	agc	gag	tgc	atg		288
Val	Asp	Ala	Leu	Leu	Lys	Lys	Thr	Thr	Ile	Ser	Phe	Ser	Glu	Cys	Met		
				85					90					95			
atc	caa	gtc	ttt	tca	tcc	cat	gtc	ttt	ggc	tgc	ctg	gag	atc	ttc	atc		336
Ile	Gln	Val	Phe	Ser	Ser	His	Val	Phe	Gly	Cys	Leu	Glu	Ile	Phe	Ile		
			100					105						110			
ctc	atc	ctc	acg	gct	gtt	gac	cgc	tat	gtg	gac	atc	tgt	aag	ccc	ctg		384
Leu	Ile	Leu	Thr	Ala	Val	Asp	Arg	Tyr	Val	Asp	Ile	Cys	Lys	Pro	Leu		
			115				120					125					
cac	tac	atg	acc	atc	ata	agc	cag	tgg	gtc	tgt	ggg	gtt	ttg	atg	gct		432
His	Tyr	Met	Thr	Ile	Ile	Ser	Gln	Trp	Val	Cys	Gly	Val	Leu	Met	Ala		
			130				135					140					
gtg	gcc	tgg	gtg	gga	tcc	tgt	gtg	cat	tct	tta	gtt	cag	att	ttt	ctt		480
Val	Ala	Trp	Val	Gly	Ser	Cys	Val	His	Ser	Leu	Val	Gln	Ile	Phe	Leu		
	145				150					155					160		
gcc	ctg	agt	ttg	cca	ttc	tgt	ggc	ccc	aat	gtg	atc	aat	cac	tgt	ttc		528
Ala	Leu	Ser	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Val	Ile	Asn	His	Cys	Phe		
				165					170					175			
tgt	gac	ttg	cag	ccc	ttg	ttg	aaa	caa	gcc	tgt	tca	gaa	acc	tat	gtg		576
Cys	Asp	Leu	Gln	Pro	Leu	Leu	Lys	Gln	Ala	Cys	Ser	Glu	Thr	Tyr	Val		
			180					185						190			
gtt	aac	cta	ctc	ctg	gtt	tcc	aat	agt	ggg	gcc	att	tgt	gca	gtg	agt		624
Val	Asn	Leu	Leu	Val	Ser	Asn	Ser	Gly	Ala	Ile	Cys	Ala	Val	Ser			
			195				200					205					
tat	gtc	atg	cta	ata	ttc	tcc	tat	gtc	atc	ttc	ttg	cat	tct	ctg	aga		672
Tyr	Val	Met	Leu	Ile	Phe	Ser	Tyr	Val	Ile	Phe	Leu	His	Ser	Leu	Arg		
			210				215					220					
aac	cac	agt	gct	gaa	gtg	ata	aag	aaa	gca	ctt	tcc	aca	tgt	gtc	tcc		720
Asn	His	Ser	Ala	Glu	Val	Ile	Lys	Lys	Ala	Leu	Ser	Thr	Cys	Val	Ser		
				225		230				235				240			
cac	atc	att	gtg	gtc	atc	ttg	ttc	ttt	gga	cct	tgc	ata	ttt	atg	tac		768
His	Ile	Ile	Val	Val	Ile	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	Met	Tyr		
				245					250					255			
aca	tgc	cct	gca	acc	gta	ttc	ccc	atg	gat	aag	atg	ata	gct	gta	ttt		816
Thr	Cys	Pro	Ala	Thr	Val	Phe	Pro	Met	Asp	Lys	Met	Ile	Ala	Val	Phe		
			260					265					270				
tat	aca	gtt	gga	aca	tct	ttt	ctc	aac	cct	gtg	att	tac	acg	ctg	aag		864
Tyr	Thr	Val	Gly	Thr	Ser	Phe	Leu	Asn	Pro	Val	Ile	Tyr	Thr	Leu	Lys		

275	280	285	
aat aca gaa gtg aaa agt gcc atg agg aag ctt tgg agc aag aaa ttg			912
Asn Thr Glu Val Lys Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Leu			
290	295	300	
atc aca gat gac aaa aga taa			933
Ile Thr Asp Asp Lys Arg			
305	310		

<210> 80  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 80

Met Gln Leu Asn Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
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Gln Asp Pro Phe Trp Lys Lys Ile Val Phe Val Ile Phe Leu Arg Leu
20 25 30

Tyr Leu Gly Thr Leu Leu Gly Asn Leu Leu Ile Ile Ile Ser Val Lys
35 40 45

Ala Ser Gln Ala Leu Lys Asn Pro Met Phe Phe Phe Leu Phe Tyr Leu
50 55 60

Ser Leu Ser Asp Thr Cys Leu Ser Thr Ser Ile Ala Pro Arg Met Ile
65 70 75 80

Val Asp Ala Leu Leu Lys Lys Thr Thr Ile Ser Phe Ser Glu Cys Met
85 90 95

Ile Gln Val Phe Ser Ser His Val Phe Gly Cys Leu Glu Ile Phe Ile
100 105 110

Leu Ile Leu Thr Ala Val Asp Arg Tyr Val Asp Ile Cys Lys Pro Leu
115 120 125

His Tyr Met Thr Ile Ile Ser Gln Trp Val Cys Gly Val Leu Met Ala
130 135 140

Val Ala Trp Val Gly Ser Cys Val His Ser Leu Val Gln Ile Phe Leu
145 150 155 160

Ala Leu Ser Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Cys Phe
165 170 175

Cys Asp Leu Gln Pro Leu Leu Lys Gln Ala Cys Ser Glu Thr Tyr Val  
180 185 190

Val Asn Leu Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ala Val Ser  
195 200 205

Tyr Val Met Leu Ile Phe Ser Tyr Val Ile Phe Leu His Ser Leu Arg  
210 215 220

Asn His Ser Ala Glu Val Ile Lys Lys Ala Leu Ser Thr Cys Val Ser  
225 230 235 240

His Ile Ile Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Met Tyr  
245 250 255

Thr Cys Pro Ala Thr Val Phe Pro Met Asp Lys Met Ile Ala Val Phe  
260 265 270

Tyr Thr Val Gly Thr Ser Phe Leu Asn Pro Val Ile Tyr Thr Leu Lys  
275 280 285

Asn Thr Glu Val Lys Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Leu  
290 295 300

Ile Thr Asp Asp Lys Arg  
305 310

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Met Phe Tyr Leu His Trp Thr Met Glu Lys Ser Asn Asn Ser Thr Leu  
1 5 10 15

ttt att ctc ttg ggg ttt tcc caa aat aag aac att gaa gtc ctc tgc 96  
Phe Ile Leu Leu Gly Phe Ser Gln Asn Lys Asn Ile Glu Val Leu Cys  
20 25 30

ttt gta tta ttt ttg ttt tgc tac att gct att tgg atg gga aac tta 144  
Phe Val Leu Phe Leu Phe Cys Tyr Ile Ala Ile Trp Met Gly Asn Leu  
35 40 45

ctc	ata	atg	att	tct	atc	acg	tgc	acc	cag	ctc	att	cac	caa	ccc	atg	192
Leu	Ile	Met	Ile	Ser	Ile	Thr	Cys	Thr	Gln	Leu	Ile	His	Gln	Pro	Met	
50						55					60					
tat	ttc	ttc	ctc	aat	tac	ctc	tca	ctc	tcc	gac	ctt	tgc	tac	aca	tcc	240
Tyr	Phe	Phe	Leu	Asn	Tyr	Leu	Ser	Leu	Ser	Asp	Leu	Cys	Tyr	Thr	Ser	
65					70					75					80	
aca	gtg	acc	ccc	aaa	tta	atg	gtt	gac	tta	ctg	gca	gaa	aga	aag	acc	288
Thr	Val	Thr	Pro	Lys	Leu	Met	Val	Asp	Leu	Leu	Ala	Glu	Arg	Lys	Thr	
				85				90						95		
att	tcc	tat	aat	aac	tgt	atg	ata	caa	ctc	ttt	acc	acc	cat	ttt	ttt	336
Ile	Ser	Tyr	Asn	Asn	Cys	Met	Ile	Gln	Leu	Phe	Thr	Thr	His	Phe	Phe	
			100					105					110			
gga	ggc	ata	gag	atc	ttc	att	ctc	aca	ggg	atg	gcc	tat	gac	cgc	tat	384
Gly	Gly	Ile	Glu	Ile	Phe	Ile	Leu	Thr	Gly	Met	Ala	Tyr	Asp	Arg	Tyr	
		115					120					125				
gtg	gcc	att	tgc	aag	ccc	ctg	cac	tac	acc	att	att	atg	agc	agg	caa	432
Val	Ala	Ile	Cys	Lys	Pro	Leu	His	Tyr	Thr	Ile	Ile	Met	Ser	Arg	Gln	
	130					135					140					
aag	tgt	aac	aca	atc	atc	ata	gtt	tgt	tgt	act	ggg	gga	ttt	ata	cat	480
Lys	Cys	Asn	Thr	Ile	Ile	Ile	Val	Cys	Cys	Thr	Gly	Gly	Phe	Ile	His	
145					150					155					160	
tct	gcc	agt	cag	ttt	ctt	ctc	acc	atc	ttt	gta	cca	ttt	tgt	ggc	cca	528
Ser	Ala	Ser	Gln	Phe	Leu	Leu	Thr	Ile	Phe	Val	Pro	Phe	Cys	Gly	Pro	
				165					170					175		
aat	gag	ata	gat	cac	tac	ttc	tgt	gat	gtg	tat	cct	ttg	ctg	aaa	ttg	576
Asn	Glu	Ile	Asp	His	Tyr	Phe	Cys	Asp	Val	Tyr	Pro	Leu	Leu	Lys	Leu	
			180					185					190			
gcc	tgt	tct	aat	ata	cac	atg	ata	ggt	ctc	tta	gtc	att	gct	aat	tca	624
Ala	Cys	Ser	Asn	Ile	His	Met	Ile	Gly	Leu	Leu	Val	Ile	Ala	Asn	Ser	
			195				200					205				
ggc	tta	att	gct	ttg	gtg	aca	ttt	gtt	gtc	ttg	ttg	ttg	tct	tat	gtt	672
Gly	Leu	Ile	Ala	Leu	Val	Thr	Phe	Val	Val	Leu	Leu	Leu	Ser	Tyr	Val	
	210					215					220					
ttt	ata	ttg	tat	acc	atc	aga	gca	tac	tct	gca	gag	aga	cgc	agc	aaa	720
Phe	Ile	Leu	Tyr	Thr	Ile	Arg	Ala	Tyr	Ser	Ala	Glu	Arg	Arg	Ser	Lys	
225					230					235					240	
gct	ctt	gcc	act	tgt	agt	tct	cat	gta	att	gtt	gtg	gtc	ctg	ttt	ttt	768
Ala	Leu	Ala	Thr	Cys	Ser	Ser	His	Val	Ile	Val	Val	Val	Leu	Phe	Phe	
				245				250						255		
gct	cct	gca	ttg	ttc	att	tac	att	aga	ccg	gtc	aca	aca	ttc	tca	gaa	816
Ala	Pro	Ala	Leu	Phe	Ile	Tyr	Ile	Arg	Pro	Val	Thr	Thr	Phe	Ser	Glu	
			260					265					270			
gat	aaa	gtg	ttt	gcc	ctt	ttt	tat	acc	atc	att	gct	ccc	atg	ttc	aac	864
Asp	Lys	Val	Phe	Ala	Leu	Phe	Tyr	Thr	Ile	Ile	Ala	Pro	Met	Phe	Asn	
		275					280					285				
cct	ctc	ata	tac	acg	ctg	aga	aac	aca	gag	atg	aag	aac	gcc	atg	agg	912

Pro Leu Ile Tyr Thr Leu Arg Asn Thr Glu Met Lys Asn Ala Met Arg  
 290 295 300

aaa gtg tgg tgt tgt caa ata ctc ctg aaa aga aat caa ctt ttc tga 960  
 Lys Val Trp Cys Cys Gln Ile Leu Leu Lys Arg Asn Gln Leu Phe  
 305 310 315

<210> 82

<211> 319

<212> PRT

<213> Homo Sapiens

<400> 82

Met Phe Tyr Leu His Trp Thr Met Glu Lys Ser Asn Asn Ser Thr Leu  
 1 5 10 15

Phe Ile Leu Leu Gly Phe Ser Gln Asn Lys Asn Ile Glu Val Leu Cys  
 20 25 30

Phe Val Leu Phe Leu Phe Cys Tyr Ile Ala Ile Trp Met Gly Asn Leu  
 35 40 45

Leu Ile Met Ile Ser Ile Thr Cys Thr Gln Leu Ile His Gln Pro Met  
 50 55 60

Tyr Phe Phe Leu Asn Tyr Leu Ser Leu Ser Asp Leu Cys Tyr Thr Ser  
 65 70 75 80

Thr Val Thr Pro Lys Leu Met Val Asp Leu Leu Ala Glu Arg Lys Thr  
 85 90 95

Ile Ser Tyr Asn Asn Cys Met Ile Gln Leu Phe Thr Thr His Phe Phe  
 100 105 110

Gly Gly Ile Glu Ile Phe Ile Leu Thr Gly Met Ala Tyr Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Lys Pro Leu His Tyr Thr Ile Ile Met Ser Arg Gln  
 130 135 140

Lys Cys Asn Thr Ile Ile Ile Val Cys Cys Thr Gly Gly Phe Ile His  
 145 150 155 160

Ser Ala Ser Gln Phe Leu Leu Thr Ile Phe Val Pro Phe Cys Gly Pro  
 165 170 175

Asn Glu Ile Asp His Tyr Phe Cys Asp Val Tyr Pro Leu Leu Lys Leu  
 180 185 190

Ala Cys Ser Asn Ile His Met Ile Gly Leu Leu Val Ile Ala Asn Ser  
195 200 205

Gly Leu Ile Ala Leu Val Thr Phe Val Val Leu Leu Leu Ser Tyr Val  
210 215 220

Phe Ile Leu Tyr Thr Ile Arg Ala Tyr Ser Ala Glu Arg Arg Ser Lys  
225 230 235 240

Ala Leu Ala Thr Cys Ser Ser His Val Ile Val Val Val Leu Phe Phe  
245 250 255

Ala Pro Ala Leu Phe Ile Tyr Ile Arg Pro Val Thr Thr Phe Ser Glu  
260 265 270

Asp Lys Val Phe Ala Leu Phe Tyr Thr Ile Ile Ala Pro Met Phe Asn  
275 280 285

Pro Leu Ile Tyr Thr Leu Arg Asn Thr Glu Met Lys Asn Ala Met Arg  
290 295 300

Lys Val Trp Cys Cys Gln Ile Leu Leu Lys Arg Asn Gln Leu Phe  
305 310 315

<210> 83  
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<212> DNA  
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<220>  
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<222> (1)..(987)  
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<400> 83  
atg atc cct gtt gga gct ttc atc ttt tcc ttg gga aac atg caa aac 48  
Met Ile Pro Val Gly Ala Phe Ile Phe Ser Leu Gly Asn Met Gln Asn  
1 5 10 15

caa agc ttt gta act gag ttt gtc ctc ctg gga ctt tca cag aat cca 96  
Gln Ser Phe Val Thr Glu Phe Val Leu Leu Gly Leu Ser Gln Asn Pro  
20 25 30

aat gtt cag gaa ata gta ttt gtt gta ttt ttg ttt gtc tac att gca 144  
Asn Val Gln Glu Ile Val Phe Val Val Phe Leu Phe Val Tyr Ile Ala  
35 40 45

act gtt ggg ggc aac atg cta att gta gta acc att ctc agc agc cct 192  
Thr Val Gly Gly Asn Met Leu Ile Val Val Thr Ile Leu Ser Ser Pro  
50 55 60



gct ctt ctg gtg tct cct atg tac ttc ttc ttg ggc ttc ctg tcc ttc Ala Leu Leu Val Ser Pro Met Tyr Phe Phe Leu Gly Phe Leu Ser Phe 65 70 75 80	240
ctg gat gcg tgc ttc tca tct gtc atc acc cca aag atg att gta gac Leu Asp Ala Cys Phe Ser Ser Val Ile Thr Pro Lys Met Ile Val Asp 85 90 95	288
tcc ctc tat gtg aca aaa acc atc tct ttt gaa ggc tgc atg atg cag Ser Leu Tyr Val Thr Lys Thr Ile Ser Phe Glu Gly Cys Met Met Gln 100 105 110	336
ctc ttt gct gaa cac ttc ttt gct ggg gtg gag gtg att gtc ctc aca Leu Phe Ala Glu His Phe Phe Ala Gly Val Glu Val Ile Val Leu Thr 115 120 125	384
gcc atg gcc tat gat cgt tat gtg gcc att tgc aag ccc ttg cat tac Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr 130 135 140	432
tct tct atc atg aac agg agg ctc tgt ggc att ctg atg ggg gta gcc Ser Ser Ile Met Asn Arg Arg Leu Cys Gly Ile Leu Met Gly Val Ala 145 150 155 160	480
tgg aca ggg ggc ctc ttg cat tcc atg ata caa att ctt ttt act ttc Trp Thr Gly Gly Leu Leu His Ser Met Ile Gln Ile Leu Phe Thr Phe 165 170 175	528
cag ctt ccc ttt tgt ggc ccc aat gtc atc aat cac ttt atg tgt gac Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Phe Met Cys Asp 180 185 190	576
ttg tac ccg tta ctg gag ctt gcc tgc act gat act cac atc ttt ggc Leu Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr His Ile Phe Gly 195 200 205	624
ctc atg gtg gtc atc aac agt ggg ttt atc tgc atc ata aac ttc tcc Leu Met Val Val Ile Asn Ser Gly Phe Ile Cys Ile Ile Asn Phe Ser 210 215 220	672
ttg ttg ctt gtc tcc tat gct gtc atc ttg ctc tct ctg aga aca cac Leu Leu Leu Val Ser Tyr Ala Val Ile Leu Leu Ser Leu Arg Thr His 225 230 235 240	720
agt tct gaa ggg cgc tgg aaa gct ctc tcc acc tgt gga tct cac att Ser Ser Glu Gly Arg Trp Lys Ala Leu Ser Thr Cys Gly Ser His Ile 245 250 255	768
gct gtt gtg att ttg ttc ttt gtc cca tgc ata ttt gta tat aca cga Ala Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Val Tyr Thr Arg 260 265 270	816
cct cca tct gct ttt tcc ctt gac aaa atg gcg gca ata ttt tat atc Pro Pro Ser Ala Phe Ser Leu Asp Lys Met Ala Ala Ile Phe Tyr Ile 275 280 285	864
atc tta aat ccc ttg ctc aat cct ttg att tac act ttc agg aat aag Ile Leu Asn Pro Leu Leu Asn Pro Leu Ile Tyr Thr Phe Arg Asn Lys 290 295 300	912

gaa gta aaa cag gcc atg agg aga ata tgg aac aga ctg atg gtg gtt 960  
 Glu Val Lys Gln Ala Met Arg Arg Ile Trp Asn Arg Leu Met Val Val  
 305 310 315 320

tct gat gag aaa gaa aat att aaa ctt taa 990  
 Ser Asp Glu Lys Glu Asn Ile Lys Leu  
 325

<210> 84  
 <211> 329  
 <212> PRT  
 <213> Homo Sapiens

<400> 84

Met Ile Pro Val Gly Ala Phe Ile Phe Ser Leu Gly Asn Met Gln Asn  
 1 5 10 15

Gln Ser Phe Val Thr Glu Phe Val Leu Leu Gly Leu Ser Gln Asn Pro  
 20 25 30

Asn Val Gln Glu Ile Val Phe Val Val Phe Leu Phe Val Tyr Ile Ala  
 35 40 45

Thr Val Gly Gly Asn Met Leu Ile Val Val Thr Ile Leu Ser Ser Pro  
 50 55 60

Ala Leu Leu Val Ser Pro Met Tyr Phe Phe Leu Gly Phe Leu Ser Phe  
 65 70 75 80

Leu Asp Ala Cys Phe Ser Ser Val Ile Thr Pro Lys Met Ile Val Asp  
 85 90 95

Ser Leu Tyr Val Thr Lys Thr Ile Ser Phe Glu Gly Cys Met Met Gln  
 100 105 110

Leu Phe Ala Glu His Phe Phe Ala Gly Val Glu Val Ile Val Leu Thr  
 115 120 125

Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr  
 130 135 140

Ser Ser Ile Met Asn Arg Arg Leu Cys Gly Ile Leu Met Gly Val Ala  
 145 150 155 160

Trp Thr Gly Gly Leu Leu His Ser Met Ile Gln Ile Leu Phe Thr Phe  
 165 170 175

Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Phe Met Cys Asp

180                      185                      190  
 Leu Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr His Ile Phe Gly  
           195                      200                      205  
 Leu Met Val Val Ile Asn Ser Gly Phe Ile Cys Ile Ile Asn Phe Ser  
           210                      215                      220  
 Leu Leu Leu Val Ser Tyr Ala Val Ile Leu Leu Ser Leu Arg Thr His  
           225                      230                      235                      240  
 Ser Ser Glu Gly Arg Trp Lys Ala Leu Ser Thr Cys Gly Ser His Ile  
                                  245                      250                      255  
 Ala Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Val Tyr Thr Arg  
                                  260                      265                      270  
 Pro Pro Ser Ala Phe Ser Leu Asp Lys Met Ala Ala Ile Phe Tyr Ile  
                                  275                      280                      285  
 Ile Leu Asn Pro Leu Leu Asn Pro Leu Ile Tyr Thr Phe Arg Asn Lys  
           290                      295                      300  
 Glu Val Lys Gln Ala Met Arg Arg Ile Trp Asn Arg Leu Met Val Val  
           305                      310                      315                      320  
 Ser Asp Glu Lys Glu Asn Ile Lys Leu  
                                  325

<210> 85  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(933)  
 <223>

<400> 85  
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 Met Arg Arg Asn Cys Thr Leu Val Thr Glu Phe Ile Leu Leu Gly Leu  
 1                      5                      10                      15  
 acc agt cgc cgg gaa tta caa att ctc ctc ttc acg ctg ttt ctg gcc 96  
 Thr Ser Arg Arg Glu Leu Gln Ile Leu Leu Phe Thr Leu Phe Leu Ala  
           20                      25                      30  
 att tac atg gtc acg gtg gca ggg aac ctt ggc atg att gtc ctc atc 144  
 Ile Tyr Met Val Thr Val Ala Gly Asn Leu Gly Met Ile Val Leu Ile

35	40	45	
cag gcc aac gcc tgg ctc cac atg ccc atg tac ttt ttc ctg agc cac Gln Ala Asn Ala Trp Leu His Met Pro Met Tyr Phe Phe Leu Ser His 50 55 60			192
tta tcc ttc gtg gat ctg tgc ttc tct tcc aat gtg act cca aag atg Leu Ser Phe Val Asp Leu Cys Phe Ser Ser Asn Val Thr Pro Lys Met 65 70 75 80			240
ctg gag att ttc ctt tca gag aag aaa agc att tcc tat cct gcc tgt Leu Glu Ile Phe Leu Ser Glu Lys Lys Ser Ile Ser Tyr Pro Ala Cys 85 90 95			288
ctt gtg cag tgt tac ctt ttt atc gcc ttg gtc cat gtt gag atc tac Leu Val Gln Cys Tyr Leu Phe Ile Ala Leu Val His Val Glu Ile Tyr 100 105 110			336
atc ctg gct gtg atg gcc ttt gac cgg tac atg gcc atc tgc aac cct Ile Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Asn Pro 115 120 125			384
ctg ctt tat ggc agc aga atg tcc aag agt gtg tgc tcc ttc ctc atc Leu Leu Tyr Gly Ser Arg Met Ser Lys Ser Val Cys Ser Phe Leu Ile 130 135 140			432
acg gtg cct tat gtg tat gga gcg ctc act ggc ctg atg gag acc atg Thr Val Pro Tyr Val Tyr Gly Ala Leu Thr Gly Leu Met Glu Thr Met 145 150 155 160			480
tgg acc tac aac cta gcc ttc tgt ggc ccc aat gaa att aat cac ttc Trp Thr Tyr Asn Leu Ala Phe Cys Gly Pro Asn Glu Ile Asn His Phe 165 170 175			528
tac tgt gcg gac cca cca ctg att aag ctg gct tgt tct gac acc tac Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala Cys Ser Asp Thr Tyr 180 185 190			576
aac aag gag ttg tca atg ttt att gtg gct ggc tgg aac ctt tct ttt Asn Lys Glu Leu Ser Met Phe Ile Val Ala Gly Trp Asn Leu Ser Phe 195 200 205			624
tct ctc ttc atc ata tgt att tcc tac ctt tac att ttc cct gct att Ser Leu Phe Ile Ile Cys Ile Ser Tyr Leu Tyr Ile Phe Pro Ala Ile 210 215 220			672
tta aag att cgc tct aca gag ggc agg caa aaa gct ttt tct acc tgt Leu Lys Ile Arg Ser Thr Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys 225 230 235 240			720
ggc tcc cat ctg aca gct gtc act ata ttc tat gca acc ctt ttc ttc Gly Ser His Leu Thr Ala Val Thr Ile Phe Tyr Ala Thr Leu Phe Phe 245 250 255			768
atg tat ctc aga ccc ccc tca aag gaa tct gtt gaa cag ggt aaa atg Met Tyr Leu Arg Pro Pro Ser Lys Glu Ser Val Glu Gln Gly Lys Met 260 265 270			816
gta gct gta ttt tat acc aca gta atc cct atg ctg aac ctt ata att Val Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Leu Ile Ile 275 280 285			864

tat agc ctt aga aat aaa aat gta aaa gaa gca tta atc aaa gag ctg 912  
 Tyr Ser Leu Arg Asn Lys Asn Val Lys Glu Ala Leu Ile Lys Glu Leu  
 290 295 300

tca atg aag ata tac ttt tct taa 936  
 Ser Met Lys Ile Tyr Phe Ser  
 305 310

<210> 86  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 86

Met Arg Arg Asn Cys Thr Leu Val Thr Glu Phe Ile Leu Leu Gly Leu  
 1 5 10 15

Thr Ser Arg Arg Glu Leu Gln Ile Leu Leu Phe Thr Leu Phe Leu Ala  
 20 25 30

Ile Tyr Met Val Thr Val Ala Gly Asn Leu Gly Met Ile Val Leu Ile  
 35 40 45

Gln Ala Asn Ala Trp Leu His Met Pro Met Tyr Phe Phe Leu Ser His  
 50 55 60

Leu Ser Phe Val Asp Leu Cys Phe Ser Ser Asn Val Thr Pro Lys Met  
 65 70 75 80

Leu Glu Ile Phe Leu Ser Glu Lys Lys Ser Ile Ser Tyr Pro Ala Cys  
 85 90 95

Leu Val Gln Cys Tyr Leu Phe Ile Ala Leu Val His Val Glu Ile Tyr  
 100 105 110

Ile Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Asn Pro  
 115 120 125

Leu Leu Tyr Gly Ser Arg Met Ser Lys Ser Val Cys Ser Phe Leu Ile  
 130 135 140

Thr Val Pro Tyr Val Tyr Gly Ala Leu Thr Gly Leu Met Glu Thr Met  
 145 150 155 160

Trp Thr Tyr Asn Leu Ala Phe Cys Gly Pro Asn Glu Ile Asn His Phe  
 165 170 175

Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala Cys Ser Asp Thr Tyr  
180 185 190

Asn Lys Glu Leu Ser Met Phe Ile Val Ala Gly Trp Asn Leu Ser Phe  
195 200 205

Ser Leu Phe Ile Ile Cys Ile Ser Tyr Leu Tyr Ile Phe Pro Ala Ile  
210 215 220

Leu Lys Ile Arg Ser Thr Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys  
225 230 235 240

Gly Ser His Leu Thr Ala Val Thr Ile Phe Tyr Ala Thr Leu Phe Phe  
245 250 255

Met Tyr Leu Arg Pro Pro Ser Lys Glu Ser Val Glu Gln Gly Lys Met  
260 265 270

Val Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Leu Ile Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Asn Val Lys Glu Ala Leu Ile Lys Glu Leu  
290 295 300

Ser Met Lys Ile Tyr Phe Ser  
305 310

<210> 87  
<211> 924  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(921)  
<223>

<400> 87  
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Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15  
agc cgt cga gaa tgg caa gtt ctc ttc ttc atc atc ttt ctt gtg gtc 96  
Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val  
20 25 30  
tac atc atc acc atg gtg ggc aat atc ggc atg atg gtg tta atc aag 144  
Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys  
35 40 45  
gtc agt cct cag ctt aac aac ccc atg tac ttt ttc ctc agt cac ttg 192

Val	Ser	Pro	Gln	Leu	Asn	Asn	Pro	Met	Tyr	Phe	Phe	Leu	Ser	His	Leu	
50						55					60					
tca	ttt	gtt	gat	gtg	tgg	ttt	tct	tcc	aat	gtc	acc	cct	aaa	atg	ttg	240
Ser	Phe	Val	Asp	Val	Trp	Phe	Ser	Ser	Asn	Val	Thr	Pro	Lys	Met	Leu	
65					70				75					80		
gaa	aac	ctg	ttt	tca	gat	aaa	aaa	aca	att	act	tat	gct	ggg	tgt	tta	288
Glu	Asn	Leu	Phe	Ser	Asp	Lys	Lys	Thr	Ile	Thr	Tyr	Ala	Gly	Cys	Leu	
				85					90					95		
gta	cag	tgt	ttc	ttc	ttc	att	gct	ctt	gtc	cat	gtg	gaa	att	ttt	att	336
Val	Gln	Cys	Phe	Phe	Phe	Ile	Ala	Leu	Val	His	Val	Glu	Ile	Phe	Ile	
			100					105					110			
ctt	gct	gcg	atg	gcc	ttt	gat	aga	tac	atg	gca	att	ggg	aat	cct	ctg	384
Leu	Ala	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Met	Ala	Ile	Gly	Asn	Pro	Leu	
		115					120					125				
ctt	tat	ggc	agt	aaa	atg	tca	agg	gtt	gtc	tgt	att	cga	ctg	att	act	432
Leu	Tyr	Gly	Ser	Lys	Met	Ser	Arg	Val	Val	Cys	Ile	Arg	Leu	Ile	Thr	
	130					135					140					
ttc	cct	tac	att	tat	ggg	ttt	ctg	acg	agt	ctg	gca	gca	aca	tta	tgg	480
Phe	Pro	Tyr	Ile	Tyr	Gly	Phe	Leu	Thr	Ser	Leu	Ala	Ala	Thr	Leu	Trp	
145					150					155					160	
act	tac	ggc	ttg	tac	ttc	tgt	gga	aaa	att	gag	atc	aac	cat	ttc	tac	528
Thr	Tyr	Gly	Leu	Tyr	Phe	Cys	Gly	Lys	Ile	Glu	Ile	Asn	His	Phe	Tyr	
				165					170					175		
tgt	gca	gat	cca	cct	ctc	atc	aaa	atg	gcc	tgt	gcc	ggg	acc	ttt	gta	576
Cys	Ala	Asp	Pro	Pro	Leu	Ile	Lys	Met	Ala	Cys	Ala	Gly	Thr	Phe	Val	
			180					185					190			
aaa	gaa	tat	aca	atg	atc	ata	ctt	gcc	ggc	att	aac	ttc	aca	tat	tcc	624
Lys	Glu	Tyr	Thr	Met	Ile	Ile	Leu	Ala	Gly	Ile	Asn	Phe	Thr	Tyr	Ser	
		195					200					205				
ctg	act	gta	att	atc	atc	tct	tac	tta	ttc	atc	ctc	att	gcc	att	ctg	672
Leu	Thr	Val	Ile	Ile	Ile	Ser	Tyr	Leu	Phe	Ile	Leu	Ile	Ala	Ile	Leu	
	210					215					220					
cga	atg	cgc	tca	gca	gaa	gga	agg	cag	aag	gcc	ttt	tcc	aca	tgt	ggg	720
Arg	Met	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Gly	
225					230					235					240	
tcc	cat	ctg	aca	gct	gtc	att	ata	ttc	tat	ggg	act	ctg	atc	ttc	atg	768
Ser	His	Leu	Thr	Ala	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Leu	Ile	Phe	Met	
				245					250					255		
tat	ctc	aga	cgt	ccc	aca	gag	gag	tct	gtg	gag	cag	ggg	aag	atg	gtg	816
Tyr	Leu	Arg	Arg	Pro	Thr	Glu	Glu	Ser	Val	Glu	Gln	Gly	Lys	Met	Val	
			260					265					270			
gct	gtg	ttc	tat	acc	aca	gtg	atc	ccc	atg	ttg	aat	ccc	atg	atc	tac	864
Ala	Val	Phe	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr	
		275					280					285				
agt	ctg	agg	aac	aag	gat	gtg	aaa	aag	gcc	atg	atg	aaa	gtg	atc	agc	912
Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Met	Met	Lys	Val	Ile	Ser	

290 295 300 924

aga tca tgt taa  
Arg Ser Cys  
305

<210> 88  
<211> 307  
<212> PRT  
<213> Homo Sapiens

<400> 88

Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15

Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val  
20 25 30

Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys  
35 40 45

Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu  
50 55 60

Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu  
65 70 75 80

Glu Asn Leu Phe Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu  
85 90 95

Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile  
100 105 110

Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu  
115 120 125

Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr  
130 135 140

Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp  
145 150 155 160

Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr  
165 170 175

Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val  
180 185 190



Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser  
195 200 205

Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu  
210 215 220

Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly  
225 230 235 240

Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met  
245 250 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val  
260 265 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr  
275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Met Met Lys Val Ile Ser  
290 295 300

Arg Ser Cys  
305

<210> 89  
<211> 918  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(915)  
<223>

<400> 89  
atg tcc aac aca aat ggc agt gca atc aca gaa ttc att tta ctt ggg 48  
Met Ser Asn Thr Asn Gly Ser Ala Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15  
ctc aca gat tgc cgc gaa ctc cag tct ctg ctt ttt gtg ctg ttt ctg 96  
Leu Thr Asp Cys Pro Glu Leu Gln Ser Leu Leu Phe Val Leu Phe Leu  
20 25 30  
gtt gtt tac ctc gtc acc ctg cta ggc aac ctg ggc atg ata atg tta 144  
Val Val Tyr Leu Val Thr Leu Leu Gly Asn Leu Gly Met Ile Met Leu  
35 40 45  
atg aga ctg gac tct cgc ctt cac acg ccc atg tac ttc ttc ctc act 192  
Met Arg Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
50 55 60

aac tta gcc ttt gtg gat ttg tgc tat aca tca aat gca acc ccg cag	240
Asn Leu Ala Phe Val Asp Leu Cys Tyr Thr Ser Asn Ala Thr Pro Gln	
65 70 75 80	
atg tcg act aat atc gta tct gag aag acc att tcc ttt gct ggt tgc	288
Met Ser Thr Asn Ile Val Ser Glu Lys Thr Ile Ser Phe Ala Gly Cys	
85 90 95	
ttt aca cag tgc tac att ttc att gcc ctt cta ctc act gag ttt tac	336
Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr	
100 105 110	
atg ctg gca gca atg gcc tat gac cgc tat gtg gcc ata tat gac cct	384
Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro	
115 120 125	
ctg cgc tac agt gtg aaa acg tcc agg aga gtt tgc atc tgc ttg gcc	432
Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala	
130 135 140	
aca ttt ccc tat gtc tat ggc ttc tca gat gga ctc ttc cag gcc atc	480
Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile	
145 150 155 160	
ctg acc ttc cgc ctg acc ttc tgt aga tcc aat gtc atc aac cac ttc	528
Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe	
165 170 175	
tac tgt gct gac ccg ccg ctc att aag ctt tct tgt tct gat act tat	576
Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr	
180 185 190	
gtc aaa gag cat gcc atg ttc ata tct gct ggc ttc aac ctc tcc agc	624
Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser	
195 200 205	
tcc ctc acc atc gtc ttg gtg tcc tat gcc ttc att ctt gct gcc atc	672
Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile	
210 215 220	
ctc cgg atc aaa tca gca gag gga agg cac aag gca ttc tcc acc tgt	720
Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys	
225 230 235 240	
ggt tcc cat atg atg gct gtc acc ctg ttt tat ggg act ctc ttt tgc	768
Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys	
245 250 255	
atg tat ata aga cca cca aca gat aag act gtt gag gaa tct aaa ata	816
Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile	
260 265 270	
ata gct gtc ttt tac acc ttt gtg agt ccg gta ctt aat cca ttg atc	864
Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile	
275 280 285	
tac agt ctg agg aat aaa gat gtg aag cag gcc ttg aag aat gtc ctg	912
Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu	
290 295 300	
aga tga	918

Arg  
305

<210> 90  
<211> 305  
<212> PRT  
<213> Homo Sapiens

<400> 90

Met Ser Asn Thr Asn Gly Ser Ala Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15

Leu Thr Asp Cys Pro Glu Leu Gln Ser Leu Leu Phe Val Leu Phe Leu  
20 25 30

Val Val Tyr Leu Val Thr Leu Leu Gly Asn Leu Gly Met Ile Met Leu  
35 40 45

Met Arg Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
50 55 60

Asn Leu Ala Phe Val Asp Leu Cys Tyr Thr Ser Asn Ala Thr Pro Gln  
65 70 75 80

Met Ser Thr Asn Ile Val Ser Glu Lys Thr Ile Ser Phe Ala Gly Cys  
85 90 95

Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr  
100 105 110

Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro  
115 120 125

Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala  
130 135 140

Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile  
145 150 155 160

Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe  
165 170 175

Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr  
180 185 190

Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser  
195 200 205

Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile  
 210 215 220

Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys  
 225 230 235 240

Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys  
 245 250 255

Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile  
 260 265 270

Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu  
 290 295 300

Arg  
 305

<210> 91  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(930)  
 <223>

<220>  
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 <222> (378)..(378)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (436)..(438)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (443)..(444)  
 <223> unknown

<400> 91  
 atg cct aat ttc acg gat gtg aca gaa ttt act ctc ctg ggg ctg acc

48

Met 1	Pro	Asn	Phe	Thr 5	Asp	Val	Thr	Glu	Phe 10	Thr	Leu	Leu	Gly	Leu 15	Thr		
tgt	cgt	cag	gag	cta	cag	gtt	ctc	ttt	ttt	gtg	gtg	ttc	cta	gcg	gtt		96
Cys	Arg	Gln	Glu	Leu	Gln	Val	Leu	Phe	Phe	Val	Val	Phe	Leu	Ala	Val		
			20					25					30				
tac	atg	atc	act	ctg	ttg	gga	aat	att	ggg	atg	atc	att	ttg	att	agc		144
Tyr	Met	Ile	Thr	Leu	Leu	Gly	Asn	Ile	Gly	Met	Ile	Ile	Leu	Ile	Ser		
		35					40					45					
atc	agt	cct	cag	ctt	cag	agt	ccc	atg	tac	ttt	ttc	ctg	agt	cat	ctg		192
Ile	Ser	Pro	Gln	Leu	Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	His	Leu		
	50					55					60						
tct	ttt	gcg	gac	gtg	tgc	ttc	tcc	tcc	aac	gtt	acc	ccc	aaa	atg	ctg		240
Ser	Phe	Ala	Asp	Val	Cys	Phe	Ser	Ser	Asn	Val	Thr	Pro	Lys	Met	Leu		
65					70					75					80		
gaa	aac	tta	tta	tca	gag	aca	aaa	acc	att	tcc	tat	gtg	gga	tgc	ttg		288
Glu	Asn	Leu	Leu	Ser	Glu	Thr	Lys	Thr	Ile	Ser	Tyr	Val	Gly	Cys	Leu		
				85					90					95			
gtg	cag	tgc	tac	ttt	ttc	att	gcc	gtt	gtc	cac	gtg	gag	gtc	tat	atc		336
Val	Gln	Cys	Tyr	Phe	Phe	Ile	Ala	Val	Val	His	Val	Glu	Val	Tyr	Ile		
			100					105					110				
ctg	gct	gtg	atg	gcc	ttt	gac	agg	tac	atg	gcc	ggc	tgc	aan	cct	ctg		384
Leu	Ala	Val	Met	Ala	Phe	Asp	Arg	Tyr	Met	Ala	Gly	Cys	Xaa	Pro	Leu		
		115					120					125					
ctt	tat	ggc	agt	aaa	atg	tct	agg	act	gtg	tgt	gtt	cgg	ctc	atc	tct		432
Leu	Tyr	Gly	Ser	Lys	Met	Ser	Arg	Thr	Val	Cys	Val	Arg	Leu	Ile	Ser		
	130						135					140					
gtg	nnn	tat	gnn	tat	gga	ttc	tct	gtc	agc	cta	ata	tgc	aca	cta	tgg		480
Val	Xaa	Tyr	Xaa	Tyr	Gly	Phe	Ser	Val	Ser	Leu	Ile	Cys	Thr	Leu	Trp		
145					150					155					160		
act	tat	ggc	tta	tac	ttc	tgt	gga	aac	ttt	gaa	atc	aat	cac	ttc	tat		528
Thr	Tyr	Gly	Leu	Tyr	Phe	Cys	Gly	Asn	Phe	Glu	Ile	Asn	His	Phe	Tyr		
				165					170					175			
tgt	gca	gat	ccc	cct	ctc	atc	cag	att	gcc	tgt	ggg	aga	gtg	cac	atc		576
Cys	Ala	Asp	Pro	Pro	Leu	Ile	Gln	Ile	Ala	Cys	Gly	Arg	Val	His	Ile		
			180					185					190				
aaa	gaa	atc	aca	atg	att	gtt	att	gct	gga	att	aac	ttc	aca	tat	tcc		624
Lys	Glu	Ile	Thr	Met	Ile	Val	Ile	Ala	Gly	Ile	Asn	Phe	Thr	Tyr	Ser		
			195					200				205					
ctc	tcg	gtg	gtc	ctc	atc	tcc	tac	act	ctc	att	gta	gta	gct	gtg	cta		672
Leu	Ser	Val	Val	Leu	Ile	Ser	Tyr	Thr	Leu	Ile	Val	Val	Ala	Val	Leu		
	210						215				220						
cgc	atg	cgc	tct	gcc	gat	ggc	agg	agg	aag	gcg	ttc	tcc	acc	tgt	ggg		720
Arg	Met	Arg	Ser	Ala	Asp	Gly	Arg	Arg	Lys	Ala	Phe	Ser	Thr	Cys	Gly		
225					230					235					240		
tcc	cac	ttg	acg	gct	gtt	tct	atg	ttt	tat	ggg	acc	ccc	atc	ttc	atg		768
Ser	His	Leu	Thr	Ala	Val	Ser	Met	Phe	Tyr	Gly	Thr	Pro	Ile	Phe	Met		

245	250	255	
tat ctc agg aga ccc act gag gaa tcc gta gag cag ggc aaa atg gtg			816
Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val			
260	265	270	
gct gtg ttt tac acc aca gta att cct atg ttg aat ccc atg atc tac			864
Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr			
275	280	285	
agt ctg aga aat aag gat gta aaa gaa gca gtc aac aaa gca atc acc			912
Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Asn Lys Ala Ile Thr			
290	295	300	
aag aca tat gtg agg cag taa			933
Lys Thr Tyr Val Arg Gln			
305	310		

<210> 92  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<220>  
 <221> misc\_feature  
 <222> (126)..(126)  
 <223> The 'Xaa' at location 126 stands for Lys, or Asn.

<220>  
 <221> misc\_feature  
 <222> (146)..(146)  
 <223> The 'Xaa' at location 146 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, a stop codon, Tyr, Trp, Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (148)..(148)  
 <223> The 'Xaa' at location 148 stands for Glu, Asp, Gly, Ala, or Val.

<220>  
 <221> misc\_feature  
 <222> (378)..(378)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (436)..(438)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (443)..(444)  
 <223> unknown

<400> 92

Met	Pro	Asn	Phe	Thr	Asp	Val	Thr	Glu	Phe	Thr	Leu	Leu	Gly	Leu	Thr
1				5				10					15		

Cys Arg Gln Glu Leu Gln Val Leu Phe Phe Val Val Phe Leu Ala Val  
 20 25 30  
 Tyr Met Ile Thr Leu Leu Gly Asn Ile Gly Met Ile Ile Leu Ile Ser  
 35 40 45  
 Ile Ser Pro Gln Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60  
 Ser Phe Ala Asp Val Cys Phe Ser Ser Asn Val Thr Pro Lys Met Leu  
 65 70 75 80  
 Glu Asn Leu Leu Ser Glu Thr Lys Thr Ile Ser Tyr Val Gly Cys Leu  
 85 90 95  
 Val Gln Cys Tyr Phe Phe Ile Ala Val Val His Val Glu Val Tyr Ile  
 100 105 110  
 Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Gly Cys Xaa Pro Leu  
 115 120 125  
 Leu Tyr Gly Ser Lys Met Ser Arg Thr Val Cys Val Arg Leu Ile Ser  
 130 135 140  
 Val Xaa Tyr Xaa Tyr Gly Phe Ser Val Ser Leu Ile Cys Thr Leu Trp  
 145 150 155 160  
 Thr Tyr Gly Leu Tyr Phe Cys Gly Asn Phe Glu Ile Asn His Phe Tyr  
 165 170 175  
 Cys Ala Asp Pro Pro Leu Ile Gln Ile Ala Cys Gly Arg Val His Ile  
 180 185 190  
 Lys Glu Ile Thr Met Ile Val Ile Ala Gly Ile Asn Phe Thr Tyr Ser  
 195 200 205  
 Leu Ser Val Val Leu Ile Ser Tyr Thr Leu Ile Val Val Ala Val Leu  
 210 215 220  
 Arg Met Arg Ser Ala Asp Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240  
 Ser His Leu Thr Ala Val Ser Met Phe Tyr Gly Thr Pro Ile Phe Met  
 245 250 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val  
260 265 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr  
275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Asn Lys Ala Ile Thr  
290 295 300

Lys Thr Tyr Val Arg Gln  
305 310

<210> 93  
<211> 933  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (930)  
<223>

<400> 93  
atg gga aga aat aac cta aca aga ccc tct gaa ttc atc ctc ctt gga 48  
Met Gly Arg Asn Asn Leu Thr Arg Pro Ser Glu Phe Ile Leu Leu Gly  
1 5 10 15  
ctc tcc tct cga cct gag gat cag aag ccg ctc ttt gct gtg ttc ctc 96  
Leu Ser Ser Arg Pro Glu Asp Gln Lys Pro Leu Phe Ala Val Phe Leu  
20 25 30  
ccc atc tac ctt atc aca gtg ata gga aac ctg ctt atc atc ctg gcc 144  
Pro Ile Tyr Leu Ile Thr Val Ile Gly Asn Leu Leu Ile Ile Leu Ala  
35 40 45  
atc cgc tca gac act cgt ctc cag acg ccc atg tac ttc ttt cta agc 192  
Ile Arg Ser Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser  
50 55 60  
atc ctg tct ttt gtt gac att tgc tat gtg aca gtc att atc cct aag 240  
Ile Leu Ser Phe Val Asp Ile Cys Tyr Val Thr Val Ile Ile Pro Lys  
65 70 75 80  
atg ctg gtg aac ttc tta tca gag aca aag acc atc tct tac agt gag 288  
Met Leu Val Asn Phe Leu Ser Glu Thr Lys Thr Ile Ser Tyr Ser Glu  
85 90 95  
tgt ctg acc cag atg tac ttt ttc tta gcc ttt gga aac aca gac agt 336  
Cys Leu Thr Gln Met Tyr Phe Phe Leu Ala Phe Gly Asn Thr Asp Ser  
100 105 110  
tac ctg cta gca gcc atg gcc att gac cgc tat gtg gcc ata tgt aat 384  
Tyr Leu Leu Ala Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125  
ccc ttc cac tac atc acc att atg agt cac aga tgc tgt gtc ctg ctt 432



Pro	Phe	His	Tyr	Ile	Thr	Ile	Met	Ser	His	Arg	Cys	Cys	Val	Leu	Leu	
130						135					140					
ctg	gtt	ctc	tcc	ttc	tgc	att	cca	cat	ttt	cac	tcc	ctc	ctg	cac	att	480
Leu	Val	Leu	Ser	Phe	Cys	Ile	Pro	His	Phe	His	Ser	Leu	Leu	His	Ile	
145					150				155						160	
ctt	ctg	act	aat	cag	ctc	atc	ttc	tgt	gcc	tca	aat	gtc	atc	cat	cac	528
Leu	Leu	Thr	Asn	Gln	Leu	Ile	Phe	Cys	Ala	Ser	Asn	Val	Ile	His	His	
				165					170					175		
ttt	ttc	tgc	gat	gat	caa	cca	gtg	cta	aaa	ttg	tcc	tgt	tcc	tcc	cat	576
Phe	Phe	Cys	Asp	Asp	Gln	Pro	Val	Leu	Lys	Leu	Ser	Cys	Ser	Ser	His	
			180					185					190			
ttt	gtc	aaa	gaa	atc	aca	gta	atg	aca	gaa	ggc	ttg	gct	gtc	ata	atg	624
Phe	Val	Lys	Glu	Ile	Thr	Val	Met	Thr	Glu	Gly	Leu	Ala	Val	Ile	Met	
	195						200					205				
acc	ccg	ttt	tca	tgc	atc	atc	atc	tct	tat	tta	aga	atc	ctc	atc	act	672
Thr	Pro	Phe	Ser	Cys	Ile	Ile	Ile	Ser	Tyr	Leu	Arg	Ile	Leu	Ile	Thr	
	210					215					220					
gtt	ctg	aag	att	cct	tca	gct	gct	gga	aag	cgt	aaa	gca	ttt	tct	acc	720
Val	Leu	Lys	Ile	Pro	Ser	Ala	Ala	Gly	Lys	Arg	Lys	Ala	Phe	Ser	Thr	
225				230				235							240	
tgt	ggc	tct	cat	ctc	aca	gtg	gtg	acc	ctg	ttt	tat	gga	agc	att	agc	768
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Thr	Leu	Phe	Tyr	Gly	Ser	Ile	Ser	
				245				250						255		
tat	ctc	tat	ttt	cag	ccc	ctg	tcc	aac	tat	act	gtc	aag	gat	caa	ata	816
Tyr	Leu	Tyr	Phe	Gln	Pro	Leu	Ser	Asn	Tyr	Thr	Val	Lys	Asp	Gln	Ile	
			260					265					270			
gca	aca	att	atc	tac	acc	gta	ctg	act	cct	atg	cta	aat	cca	ttt	atc	864
Ala	Thr	Ile	Ile	Tyr	Thr	Val	Leu	Thr	Pro	Met	Leu	Asn	Pro	Phe	Ile	
	275						280					285				
tat	agt	ctg	agg	aac	aaa	gac	atg	aag	cag	ggc	ttg	gca	aag	ttg	atg	912
Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Met	Lys	Gln	Gly	Leu	Ala	Lys	Leu	Met	
	290					295					300					
cac	agg	atg	aaa	tgt	cag	taa										933
His	Arg	Met	Lys	Cys	Gln											
305					310											

<210> 94  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 94

Met	Gly	Arg	Asn	Asn	Leu	Thr	Arg	Pro	Ser	Glu	Phe	Ile	Leu	Leu	Gly	
1			5					10					15			
Leu	Ser	Ser	Arg	Pro	Glu	Asp	Gln	Lys	Pro	Leu	Phe	Ala	Val	Phe	Leu	
			20				25						30			

Pro Ile Tyr Leu Ile Thr Val Ile Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Ile Arg Ser Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Ile Leu Ser Phe Val Asp Ile Cys Tyr Val Thr Val Ile Ile Pro Lys  
 65 70 75 80

Met Leu Val Asn Phe Leu Ser Glu Thr Lys Thr Ile Ser Tyr Ser Glu  
 85 90 95

Cys Leu Thr Gln Met Tyr Phe Phe Leu Ala Phe Gly Asn Thr Asp Ser  
 100 105 110

Tyr Leu Leu Ala Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Phe His Tyr Ile Thr Ile Met Ser His Arg Cys Cys Val Leu Leu  
 130 135 140

Leu Val Leu Ser Phe Cys Ile Pro His Phe His Ser Leu Leu His Ile  
 145 150 155 160

Leu Leu Thr Asn Gln Leu Ile Phe Cys Ala Ser Asn Val Ile His His  
 165 170 175

Phe Phe Cys Asp Asp Gln Pro Val Leu Lys Leu Ser Cys Ser Ser His  
 180 185 190

Phe Val Lys Glu Ile Thr Val Met Thr Glu Gly Leu Ala Val Ile Met  
 195 200 205

Thr Pro Phe Ser Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Thr  
 210 215 220

Val Leu Lys Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile Ser  
 245 250 255

Tyr Leu Tyr Phe Gln Pro Leu Ser Asn Tyr Thr Val Lys Asp Gln Ile  
 260 265 270

Ala Thr Ile Ile Tyr Thr Val Leu Thr Pro Met Leu Asn Pro Phe Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Met Lys Gln Gly Leu Ala Lys Leu Met  
 290 295 300

His Arg Met Lys Cys Gln  
 305 310

<210> 95  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)  
 <223>

<400> 95  
 atg gga aaa cca ggc aga gtg aac caa acc act gtt tca gac ttc ctc 48  
 Met Gly Lys Pro Gly Arg Val Asn Gln Thr Thr Val Ser Asp Phe Leu  
 1 5 10 15

ctt cta gga ctc tct gag tgg cca gag gag cag cct ctt ctg ttt ggc 96  
 Leu Leu Gly Leu Ser Glu Trp Pro Glu Glu Gln Pro Leu Leu Phe Gly  
 20 25 30

atc ttc ctt ggc atg tac ctg gtc acc atg gtg ggg aac ctg ctc att 144  
 Ile Phe Leu Gly Met Tyr Leu Val Thr Met Val Gly Asn Leu Leu Ile  
 35 40 45

atc ctg gcc atc agc tct gac cca cac ctc cat act ccc atg tac ttc 192  
 Ile Leu Ala Ile Ser Ser Asp Pro His Leu His Thr Pro Met Tyr Phe  
 50 55 60

ttt ctg gcc aac ctg tca tta act gat gcc tgt ttc act tct gcc tcc 240  
 Phe Leu Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser  
 65 70 75 80

atc ccc aaa atg ctg gcc aac att cat acc cag agt cag atc atc tcg 288  
 Ile Pro Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser  
 85 90 95

tat tct ggg tgt ctt gca cag cta tat ttc ctc ctt atg ttt ggt ggc 336  
 Tyr Ser Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly  
 100 105 110

ctt gac aac tgc ctg ctg gct gtg atg gca tat gac cgc tat gtg gcc 384  
 Leu Asp Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala  
 115 120 125

atc tgc caa cca ctc cat tac agc aca tct atg agt ccc cag ctc tgt 432  
 Ile Cys Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys  
 130 135 140

gca cta atg ctg ggt gtg tgc tgg gtg cta acc aac tgt cct gcc ctg 480  
 Ala Leu Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu  
 145 150 155 160  
  
 atg cac aca ctg ttg ctg acc cgc gtg gct ttc tgt gcc cag aaa gcc 528  
 Met His Thr Leu Leu Thr Arg Val Ala Phe Cys Ala Gln Lys Ala  
 165 170 175  
  
 atc cct cat ttc tat tgt gat cct agt gct ctc ctg aag ctt gcc tgc 576  
 Ile Pro His Phe Tyr Cys Asp Pro Ser Ala Leu Leu Lys Leu Ala Cys  
 180 185 190  
  
 tca gat acc cat gta aac gag ctg atg atc atc acc atg gcc ttg ctg 624  
 Ser Asp Thr His Val Asn Glu Leu Met Ile Ile Thr Met Gly Leu Leu  
 195 200 205  
  
 ttc ctc act gtt ccc ctc ctg ctg atc gtc ttc tcc tat gtc cgc att 672  
 Phe Leu Thr Val Pro Leu Leu Leu Ile Val Phe Ser Tyr Val Arg Ile  
 210 215 220  
  
 ttc tgg gct gtg ttt gtc atc tca tct cct gga ggg aga tgg aag gcc 720  
 Phe Trp Ala Val Phe Val Ile Ser Ser Pro Gly Gly Arg Trp Lys Ala  
 225 230 235 240  
  
 ttc tct acc tgt ggt tct cat ctc acg gtg gtt ctg ctc ttc tat ggg 768  
 Phe Ser Thr Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly  
 245 250 255  
  
 tct ctt atg ggt gtg tat tta ctt cct cca tca act tac tct aca gag 816  
 Ser Leu Met Gly Val Tyr Leu Leu Pro Pro Ser Thr Tyr Ser Thr Glu  
 260 265 270  
  
 agg gaa agt agg gct gct gtt ctc tat atg gtg att att ccc acg cta 864  
 Arg Glu Ser Arg Ala Ala Val Leu Tyr Met Val Ile Ile Pro Thr Leu  
 275 280 285  
  
 aac cca ttc att tat agc ttg agg aac aga gac atg aag gag gct ttg 912  
 Asn Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu  
 290 295 300  
  
 ggt aaa ctt ttt gtc agt gga aaa aca ttc ttt tta tga 951  
 Gly Lys Leu Phe Val Ser Gly Lys Thr Phe Phe Leu  
 305 310 315

&lt;210&gt; 96

&lt;211&gt; 316

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 96

Met Gly Lys Pro Gly Arg Val Asn Gln Thr Thr Val Ser Asp Phe Leu  
 1 5 10 15

Leu Leu Gly Leu Ser Glu Trp Pro Glu Glu Gln Pro Leu Leu Phe Gly  
 20 25 30

Ile Phe Leu Gly Met Tyr Leu Val Thr Met Val Gly Asn Leu Leu Ile

35	40	45
Ile Leu Ala Ile Ser Ser Asp Pro His Leu His Thr Pro Met Tyr Phe 50 55 60		
Phe Leu Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser 65 70 75 80		
Ile Pro Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser 85 90 95		
Tyr Ser Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly 100 105 110		
Leu Asp Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala 115 120 125		
Ile Cys Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys 130 135 140		
Ala Leu Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu 145 150 155 160		
Met His Thr Leu Leu Leu Thr Arg Val Ala Phe Cys Ala Gln Lys Ala 165 170 175		
Ile Pro His Phe Tyr Cys Asp Pro Ser Ala Leu Leu Lys Leu Ala Cys 180 185 190		
Ser Asp Thr His Val Asn Glu Leu Met Ile Ile Thr Met Gly Leu Leu 195 200 205		
Phe Leu Thr Val Pro Leu Leu Leu Ile Val Phe Ser Tyr Val Arg Ile 210 215 220		
Phe Trp Ala Val Phe Val Ile Ser Ser Pro Gly Gly Arg Trp Lys Ala 225 230 235 240		
Phe Ser Thr Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly 245 250 255		
Ser Leu Met Gly Val Tyr Leu Leu Pro Pro Ser Thr Tyr Ser Thr Glu 260 265 270		
Arg Glu Ser Arg Ala Ala Val Leu Tyr Met Val Ile Ile Pro Thr Leu 275 280 285		

Asn Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu  
 290 295 300

Gly Lys Leu Phe Val Ser Gly Lys Thr Phe Phe Leu  
 305 310 315

<210> 97  
 <211> 975  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(972)  
 <223>

<400> 97  
 atg gga atg tcc aac ctg aca aga ctc tct gaa ttt att ctc ttg gga 48  
 Met Gly Met Ser Asn Leu Thr Arg Leu Ser Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 ctc tcc tct cgg tct gaa gac cag agg cca ctc ttt gcc ctc ttt ctt 96  
 Leu Ser Ser Arg Ser Glu Asp Gln Arg Pro Leu Phe Ala Leu Phe Leu  
 20 25 30  
 atc ata tac ctg gtc act ttg atg gga aat ctg ctc atc atc ttg gct 144  
 Ile Ile Tyr Leu Val Thr Leu Met Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 atc cac tct gat cct cga ctt caa aac cct atg tat ttt ttc cta agc 192  
 Ile His Ser Asp Pro Arg Leu Gln Asn Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 atc ttg tcc ttt gct gat att tgc tac aca aca gtc ata gtc cca aag 240  
 Ile Leu Ser Phe Ala Asp Ile Cys Tyr Thr Thr Val Ile Val Pro Lys  
 65 70 75 80  
 atg ctc gtg aac ttc tta tca gag aaa aag acc att tcc tat gct gaa 288  
 Met Leu Val Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Glu  
 85 90 95  
 tgt ctg gca cag atg tat ttc ttc ctg gtt ttt gga aac ata gat agt 336  
 Cys Leu Ala Gln Met Tyr Phe Phe Leu Val Phe Gly Asn Ile Asp Ser  
 100 105 110  
 tat ctc ctg gcg gct atg gcc atc aac cgc tgt gta gcc att tgt aac 384  
 Tyr Leu Leu Ala Ala Met Ala Ile Asn Arg Cys Val Ala Ile Cys Asn  
 115 120 125  
 cca ttc cat tat gtc act gtt atg aac cgc aga tgc tgt gtg ttg cta 432  
 Pro Phe His Tyr Val Thr Val Met Asn Arg Arg Cys Cys Val Leu Leu  
 130 135 140  
 cta gca ttc ccc atc act ttc tcc tat ttc cac tct ctc cta cat gtc 480  
 Leu Ala Phe Pro Ile Thr Phe Ser Tyr Phe His Ser Leu Leu His Val  
 145 150 155 160

ctc ctg gtg aat cgg ctc acc ttt tgt aca tca aat gtt atc cat cat 528  
 Leu Leu Val Asn Arg Leu Thr Phe Cys Thr Ser Asn Val Ile His His  
 165 170 175

ttt ttt tgt gat gtc aac cct gtg ctg aaa ctg tcc tgc tcc tcc acc 576  
 Phe Phe Cys Asp Val Asn Pro Val Leu Lys Leu Ser Cys Ser Ser Thr  
 180 185 190

ttt gtc aat gaa att gtg gcc atg aca gaa ggg ctg gcc tct gtg atg 624  
 Phe Val Asn Glu Ile Val Ala Met Thr Glu Gly Leu Ala Ser Val Met  
 195 200 205

gct cca ttt gtc tgt atc atc atc tct tat cta aga att ctc atc gct 672  
 Ala Pro Phe Val Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Ala  
 210 215 220

gtt ctc aag att ccc tca gca gct gga aaa cac aaa gcc ttc tcc acc 720  
 Val Leu Lys Ile Pro Ser Ala Ala Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240

tgc agc tcc cat ctc act gtg gtg att ctg ttt tat ggg agt att agc 768  
 Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ser Ile Ser  
 245 250 255

tat gtc tat ttg cag cct ttg tcc agc tat act gtc aag gac cga ata 816  
 Tyr Val Tyr Leu Gln Pro Leu Ser Ser Tyr Thr Val Lys Asp Arg Ile  
 260 265 270

gca aca atc aac tac act gtg ttg aca tca gtg ttg aac cca ttt atc 864  
 Ala Thr Ile Asn Tyr Thr Val Leu Thr Ser Val Leu Asn Pro Phe Ile  
 275 280 285

tac agt tta aga aac aaa gac atg aaa cgg ggc tta cag aaa ttg ata 912  
 Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Gln Lys Leu Ile  
 290 295 300

aac aag att aag tct caa atg agt agg ttc tct aca aag acc aat aaa 960  
 Asn Lys Ile Lys Ser Gln Met Ser Arg Phe Ser Thr Lys Thr Asn Lys  
 305 310 315 320

atc tgt gga ccc tga 975  
 Ile Cys Gly Pro

<210> 98  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 98

Met Gly Met Ser Asn Leu Thr Arg Leu Ser Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Ser Ser Arg Ser Glu Asp Gln Arg Pro Leu Phe Ala Leu Phe Leu  
 20 25 30

Ile Ile Tyr Leu Val Thr Leu Met Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 Ile His Ser Asp Pro Arg Leu Gln Asn Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 Ile Leu Ser Phe Ala Asp Ile Cys Tyr Thr Thr Val Ile Val Pro Lys  
 65 70 75 80  
 Met Leu Val Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Glu  
 85 90 95  
 Cys Leu Ala Gln Met Tyr Phe Phe Leu Val Phe Gly Asn Ile Asp Ser  
 100 105 110  
 Tyr Leu Leu Ala Ala Met Ala Ile Asn Arg Cys Val Ala Ile Cys Asn  
 115 120 125  
 Pro Phe His Tyr Val Thr Val Met Asn Arg Arg Cys Cys Val Leu Leu  
 130 135 140  
 Leu Ala Phe Pro Ile Thr Phe Ser Tyr Phe His Ser Leu Leu His Val  
 145 150 155 160  
 Leu Leu Val Asn Arg Leu Thr Phe Cys Thr Ser Asn Val Ile His His  
 165 170 175  
 Phe Phe Cys Asp Val Asn Pro Val Leu Lys Leu Ser Cys Ser Ser Thr  
 180 185 190  
 Phe Val Asn Glu Ile Val Ala Met Thr Glu Gly Leu Ala Ser Val Met  
 195 200 205  
 Ala Pro Phe Val Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Ala  
 210 215 220  
 Val Leu Lys Ile Pro Ser Ala Ala Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ser Ile Ser  
 245 250 255  
 Tyr Val Tyr Leu Gln Pro Leu Ser Ser Tyr Thr Val Lys Asp Arg Ile  
 260 265 270  
 Ala Thr Ile Asn Tyr Thr Val Leu Thr Ser Val Leu Asn Pro Phe Ile



<400>																	99
atg gaa aac caa tcc agc att tct gaa ttt ttc ctc cga gga ata tca																	48
Met Glu Asn Gln Ser Ser Ile Ser Glu Phe Phe Leu Arg Gly Ile Ser																	.
1																	10 15
gcg cct cca gag caa cag cag tcc ctc ttc gga att ttc ctg tgt atg																	96
Ala Pro Pro Glu Gln Gln Gln Ser Leu Phe Gly Ile Phe Leu Cys Met																	
																	20 25 30
tat ctt gtc acc ttg act ggg aac ctg ctc atc atc ctg gcc att ggc																	144
Tyr Leu Val Thr Leu Thr Gly Asn Leu Leu Ile Ile Leu Ala Ile Gly																	.
																	35 40 45
tct gac ctg cac ctc cac acc ccc atg tac ttt ttc ttg gcc aac ctg																	192
Ser Asp Leu His Leu His Thr Pro Met Tyr Phe Leu Ala Asn Leu																	
																	50 55 60
tct ttt gtt gac atg ggt tta acg tcc tcc aca gtt acc aag atg ctg																	240
Ser Phe Val Asp Met Gly Leu Thr Ser Ser Thr Val Thr Lys Met Leu																	
65																	70 75 80
gtg aat ata cag act cgg cat cac acc atc tcc tat acg ggt tgc ctc																	288
Val Asn Ile Gln Thr Arg His His Thr Ile Ser Tyr Thr Gly Cys Leu																	
																	85 90 95
acg caa atg tat ttc ttt ctg atg ttt ggt gat cta gac agc ttc ttc																	336
Thr Gln Met Tyr Phe Phe Leu Met Phe Gly Asp Leu Asp Ser Phe Phe																	
																	100 105 110
ctg gct gcc atg gcg tat gac cgc tat gtg gcc att tgc cac ccc ctc																	384
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu																	
																	115 120 125
tgc tac tcc aca gtc atg agg ccc caa gtc tgt gcc cta atg ctt gca																	432
Cys Tyr Ser Thr Val Met Arg Pro Gln Val Cys Ala Leu Met Leu Ala																	

130	135	140	
ttg tgc tgg gtc ctc acc aat atc gtt gcc ctg act cac acg ttc ctc			480
Leu Cys Trp Val Leu Thr Asn Ile Val Ala Leu Thr His Thr Phe Leu			
145	150	155	160
atg gct cgg ttg tcc ttc tgt gtg act ggg gaa att gct cac ttt ttc			528
Met Ala Arg Leu Ser Phe Cys Val Thr Gly Glu Ile Ala His Phe Phe			
	165	170	175
tgt gac atc act cct gtc ctg aag ctg tca tgt tct gac acc cac atc			576
Cys Asp Ile Thr Pro Val Leu Lys Leu Ser Cys Ser Asp Thr His Ile			
	180	185	190
aac gag atg atg gtt ttt gtc ttg gga ggc acc gta ctc atc gtc ccc			624
Asn Glu Met Met Val Phe Val Leu Gly Gly Thr Val Leu Ile Val Pro			
	195	200	205
ttt tta tgc att gtc acc tcc tac atc cac att gtg cca gct atc ctg			672
Phe Leu Cys Ile Val Thr Ser Tyr Ile His Ile Val Pro Ala Ile Leu			
	210	215	220
agg gtc cga acc cgt ggt ggg gtg ggc aag gcc ttt tcc acc tgc agt			720
Arg Val Arg Thr Arg Gly Gly Val Gly Lys Ala Phe Ser Thr Cys Ser			
	225	230	240
tcc cac ctc tgc gtt gtt tgt gtg ttc tat ggg acc ctc ttc agt gcc			768
Ser His Leu Cys Val Val Cys Val Phe Tyr Gly Thr Leu Phe Ser Ala			
	245	250	255
tac ctg tgt cct ccc tcc att gcc tct gaa gag aag gac att gca gca			816
Tyr Leu Cys Pro Pro Ser Ile Ala Ser Glu Glu Lys Asp Ile Ala Ala			
	260	265	270
gct gca atg tac acc ata gtg act ccc atg ttg aac ccc ttt atc tat			864
Ala Ala Met Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Phe Ile Tyr			
	275	280	285
agc cta agg aac aag gac atg aag ggg gcc cta aag agg ctc ttc agt			912
Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Lys Arg Leu Phe Ser			
	290	295	300
cac agg agt att gtt tcc tct tag			936
His Arg Ser Ile Val Ser Ser			
305	310		

<210> 100  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 100

Met Glu Asn Gln Ser Ser Ile Ser Glu Phe Phe Leu Arg Gly Ile Ser  
 1 5 10 15

Ala Pro Pro Glu Gln Gln Gln Ser Leu Phe Gly Ile Phe Leu Cys Met  
 20 25 30

Tyr Leu Val Thr Leu Thr Gly Asn Leu Leu Ile Ile Leu Ala Ile Gly  
 35 40 45

Ser Asp Leu His Leu His Thr Pro Met Tyr Phe Phe Leu Ala Asn Leu  
 50 55 60

Ser Phe Val Asp Met Gly Leu Thr Ser Ser Thr Val Thr Lys Met Leu  
 65 70 75 80

Val Asn Ile Gln Thr Arg His His Thr Ile Ser Tyr Thr Gly Cys Leu  
 85 90 95

Thr Gln Met Tyr Phe Phe Leu Met Phe Gly Asp Leu Asp Ser Phe Phe  
 100 105 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu  
 115 120 125

Cys Tyr Ser Thr Val Met Arg Pro Gln Val Cys Ala Leu Met Leu Ala  
 130 135 140

Leu Cys Trp Val Leu Thr Asn Ile Val Ala Leu Thr His Thr Phe Leu  
 145 150 155 160

Met Ala Arg Leu Ser Phe Cys Val Thr Gly Glu Ile Ala His Phe Phe  
 165 170 175

Cys Asp Ile Thr Pro Val Leu Lys Leu Ser Cys Ser Asp Thr His Ile  
 180 185 190

Asn Glu Met Met Val Phe Val Leu Gly Gly Thr Val Leu Ile Val Pro  
 195 200 205

Phe Leu Cys Ile Val Thr Ser Tyr Ile His Ile Val Pro Ala Ile Leu  
 210 215 220

Arg Val Arg Thr Arg Gly Gly Val Gly Lys Ala Phe Ser Thr Cys Ser  
 225 230 235 240

Ser His Leu Cys Val Val Cys Val Phe Tyr Gly Thr Leu Phe Ser Ala  
 245 250 255

Tyr Leu Cys Pro Pro Ser Ile Ala Ser Glu Glu Lys Asp Ile Ala Ala  
 260 265 270

Ala Ala Met Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Phe Ile Tyr  
 275 280 285

Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Lys Arg Leu Phe Ser  
 290 295 300

His Arg Ser Ile Val Ser Ser  
 305 310

<210> 101  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(939)  
 <223>

<400> 101  
 atg aag agg gag aat cag agc agt gtg tct gag ttc ctc ctc ctg gac 48  
 Met Lys Arg Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Asp  
 1 5 10 15  
 ctc ccc atc tgg cca gag cag cag gct gtg ttc ttc acc ctg ttc ttg 96  
 Leu Pro Ile Trp Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu  
 20 25 30  
 ggc atg tac ctg atc acg gtg ctg ggg aac ctg ctc atc atc ctg ctc 144  
 Gly Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Leu  
 35 40 45  
 atc cgg ctg gac tct cac ctt cac acc ccc atg ttc ttc ttc ctc agc 192  
 Ile Arg Leu Asp Ser His Leu His Thr Pro Met Phe Phe Phe Leu Ser  
 50 55 60  
 cac ttg gct ctc act gac atc tcc ctt tca tct gtc act gtc cca aag 240  
 His Leu Ala Leu Thr Asp Ile Ser Leu Ser Ser Val Thr Val Pro Lys  
 65 70 75 80  
 atg tta tta agc atg caa act cag gat caa tcc att ctt tat gca ggg 288  
 Met Leu Leu Ser Met Gln Thr Gln Asp Gln Ser Ile Leu Tyr Ala Gly  
 85 90 95  
 tgt gta act cag atg tat ttt ttc ata ttt ttc act gat cta gac aat 336  
 Cys Val Thr Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Asn  
 100 105 110  
 ttc ctt ctc act tca atg gca tac gat cgg tat gtg gcc atc tgt cac 384  
 Phe Leu Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 ccc ctc cgc tac acc act atc atg aaa gag gga ctg tgt aac tta cta 432  
 Pro Leu Arg Tyr Thr Thr Ile Met Lys Glu Gly Leu Cys Asn Leu Leu  
 130 135 140  
 gtc act gtg tcc tgg atc ctc tcc tgt acc aat gcc ctg tct cac act 480

Val Thr Val Ser Trp Ile Leu Ser Cys Thr Asn Ala Leu Ser His Thr  
 145 150 155 160

ctc ctc ctg gcc cag ctg tcc ttt tgt gct gac aac acc atc ccc cat 528  
 Leu Leu Leu Ala Gln Leu Ser Phe Cys Ala Asp Asn Thr Ile Pro His  
 165 170 175

ttc ttc tgt gat ctt gtt gcc cta ctc aag ctc tca tgc tca gac atc 576  
 Phe Phe Cys Asp Leu Val Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile  
 180 185 190

tcc ctc aat gag ctg gtc att ttc aca gtg gga cag gca gtc att act 624  
 Ser Leu Asn Glu Leu Val Ile Phe Thr Val Gly Gln Ala Val Ile Thr  
 195 200 205

cta cca cta ata tgc atc ttg atc tct tat ggc cac att ggg gtc acc 672  
 Leu Pro Leu Ile Cys Ile Leu Ile Ser Tyr Gly His Ile Gly Val Thr  
 210 215 220

atc ctc aag gct cca tct act aag ggc atc ttc aaa gct ttg tcc acc 720  
 Ile Leu Lys Ala Pro Ser Thr Lys Gly Ile Phe Lys Ala Leu Ser Thr  
 225 230 235 240

tgt ggc tct cac ctc tct gtg gtg tct ctg tat tat ggc aca att att 768  
 Cys Gly Ser His Leu Ser Val Val Ser Leu Tyr Tyr Gly Thr Ile Ile  
 245 250 255

gga ctg tat ttt ctc ccc tca tcc agt gcc tcc agt gac aag gac gta 816  
 Gly Leu Tyr Phe Leu Pro Ser Ser Ser Ala Ser Ser Asp Lys Asp Val  
 260 265 270

att gcc tct gtg atg tac acg gtg atc acc cca ttg ctg aat ccc ttc 864  
 Ile Ala Ser Val Met Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Phe  
 275 280 285

att tat agc cta agg aac agg gac ata aag gga gcc ctg gag aga ctc 912  
 Ile Tyr Ser Leu Arg Asn Arg Asp Ile Lys Gly Ala Leu Glu Arg Leu  
 290 295 300

ttc aac agg gca aca gtc tta tct caa tga 942  
 Phe Asn Arg Ala Thr Val Leu Ser Gln  
 305 310

&lt;210&gt; 102

&lt;211&gt; 313

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 102

Met Lys Arg Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Asp  
 1 5 10 15

Leu Pro Ile Trp Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu  
 20 25 30

Gly Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Leu  
 35 40 45

Ile Arg Leu Asp Ser His Leu His Thr Pro Met Phe Phe Phe Leu Ser  
 50 55 60

His Leu Ala Leu Thr Asp Ile Ser Leu Ser Ser Val Thr Val Pro Lys  
 65 70 75 80

Met Leu Leu Ser Met Gln Thr Gln Asp Gln Ser Ile Leu Tyr Ala Gly  
 85 90 95

Cys Val Thr Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Asn  
 100 105 110

Phe Leu Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Thr Thr Ile Met Lys Glu Gly Leu Cys Asn Leu Leu  
 130 135 140

Val Thr Val Ser Trp Ile Leu Ser Cys Thr Asn Ala Leu Ser His Thr  
 145 150 155 160

Leu Leu Leu Ala Gln Leu Ser Phe Cys Ala Asp Asn Thr Ile Pro His  
 165 170 175

Phe Phe Cys Asp Leu Val Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile  
 180 185 190

Ser Leu Asn Glu Leu Val Ile Phe Thr Val Gly Gln Ala Val Ile Thr  
 195 200 205

Leu Pro Leu Ile Cys Ile Leu Ile Ser Tyr Gly His Ile Gly Val Thr  
 210 215 220

Ile Leu Lys Ala Pro Ser Thr Lys Gly Ile Phe Lys Ala Leu Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Tyr Tyr Gly Thr Ile Ile  
 245 250 255

Gly Leu Tyr Phe Leu Pro Ser Ser Ser Ala Ser Ser Asp Lys Asp Val  
 260 265 270

Ile Ala Ser Val Met Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Ile Lys Gly Ala Leu Glu Arg Leu  
 290 295 300

Phe Asn Arg Ala Thr Val Leu Ser Gln  
 305 310

<210> 103  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (927)  
 <223>

<400> 103  
 atg gaa aga atc aac cac acc agc agt gtc tcc gag ttt atc ctc ctg 48.  
 Met Glu Arg Ile Asn His Thr Ser Ser Val Ser Glu Phe Ile Leu Leu  
 1 5 10 15  
 gga ctc tcc tcc cgg cct gag gac caa aag aca ctc ttt gtt ctc ttc 96  
 Gly Leu Ser Ser Arg Pro Glu Asp Gln Lys Thr Leu Phe Val Leu Phe  
 20 25 30  
 ctc atc gtg tac ctg gtc acc ata aca ggg aac ctg ctc atc atc ctg 144.  
 Leu Ile Val Tyr Leu Val Thr Ile Thr Gly Asn Leu Leu Ile Ile Leu  
 35 40 45  
 gcc att cgc ttc aac ccc cat ctt cag acc cct atg tat ttc ttc ttg 192  
 Ala Ile Arg Phe Asn Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu  
 50 55 60  
 agt ttt ctg tct ctc act gat att tgc ttt aca aca agc gtt gtc ccc 240  
 Ser Phe Leu Ser Leu Thr Asp Ile Cys Phe Thr Thr Ser Val Val Pro  
 65 70 75 80  
 aag atg ctg atg aac ttc ctg tca gaa aag aag acc atc tcc tat gct 288  
 Lys Met Leu Met Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala  
 85 90 95  
 ggg tgt ctg aca cag atg tat ttt ctc tat gcc ttg ggc aac agt gac 336  
 Gly Cys Leu Thr Gln Met Tyr Phe Leu Tyr Ala Leu Gly Asn Ser Asp  
 100 105 110  
 agc tgc ctt ctg gca gtc atg gcc ttt gac cgc tat gtg gcc gtc tgt 384  
 Ser Cys Leu Leu Ala Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys  
 115 120 125  
 gac cct ttc cac tat gtc acc acc atg agc cac cac cac tgt gtc ctg 432  
 Asp Pro Phe His Tyr Val Thr Thr Met Ser His His His Cys Val Leu  
 130 135 140  
 ctg gtg gcc ttc tcc tgc tca ttt cct cac ctc cac tca ctc ctg cac 480  
 Leu Val Ala Phe Ser Cys Ser Phe Pro His Leu His Ser Leu Leu His  
 145 150 155 160

aca ctt ctg ctg aat cgt ctc acc ttc tgt gac tcc aat gtt atc cac 528  
 Thr Leu Leu Leu Asn Arg Leu Thr Phe Cys Asp Ser Asn Val Ile His  
 165 170 175

cac ttt ctc tgt gac ctc agc cct gtg ctg aaa ttg tcc tgc tct tcc 576  
 His Phe Leu Cys Asp Leu Ser Pro Val Leu Lys Leu Ser Cys Ser Ser  
 180 185 190

ata ttt gtc aat gaa att gtg cag atg aca gaa gca cct att gtt ttg 624  
 Ile Phe Val Asn Glu Ile Val Gln Met Thr Glu Ala Pro Ile Val Leu  
 195 200 205

gtg act cgt ttt ctc tgc att gct ttc tct tat ata cga atc ctc act 672  
 Val Thr Arg Phe Leu Cys Ile Ala Phe Ser Tyr Ile Arg Ile Leu Thr  
 210 215 220

aca gtt ctc aag att ccc tct act tct ggg aaa cgc aaa gcc ttc tcc 720  
 Thr Val Leu Lys Ile Pro Ser Thr Ser Gly Lys Arg Lys Ala Phe Ser  
 225 230 235 240

acc tgt ggt ttt tac ctc acc gtg gtg acg ctc ttt tat gga agc atc 768  
 Thr Cys Gly Phe Tyr Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile  
 245 250 255

ttc tgt gtc tat tta cag ccc cca tcc acc tac gct gtc aag gac cac 816  
 Phe Cys Val Tyr Leu Gln Pro Pro Ser Thr Tyr Ala Val Lys Asp His  
 260 265 270

gtg gca aca att gtt tac aca gtt ttg tca tcc atg ctc aat cct ttt 864  
 Val Ala Thr Ile Val Tyr Thr Val Leu Ser Ser Met Leu Asn Pro Phe  
 275 280 285

atc tac agc ctg aga aac aaa gac ctg aaa cag ggc ctg agg aag ctt 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Leu Lys Gln Gly Leu Arg Lys Leu  
 290 295 300

atg agc aag aga tcc tag 930  
 Met Ser Lys Arg Ser  
 305

<210> 104  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 104

Met Glu Arg Ile Asn His Thr Ser Ser Val Ser Glu Phe Ile Leu Leu  
 1 5 10 15

Gly Leu Ser Ser Arg Pro Glu Asp Gln Lys Thr Leu Phe Val Leu Phe  
 20 25 30

Leu Ile Val Tyr Leu Val Thr Ile Thr Gly Asn Leu Leu Ile Ile Leu  
 35 40 45

Ala Ile Arg Phe Asn Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu



50	55	60
Ser Phe Leu Ser Leu Thr Asp Ile Cys Phe Thr Thr Ser Val Val Pro		
65	70	75 80
Lys Met Leu Met Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala		
	85	90 95
Gly Cys Leu Thr Gln Met Tyr Phe Leu Tyr Ala Leu Gly Asn Ser Asp		
	100	105 110
Ser Cys Leu Leu Ala Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys		
	115	120 125
Asp Pro Phe His Tyr Val Thr Thr Met Ser His His His Cys Val Leu		
	130	135 140
Leu Val Ala Phe Ser Cys Ser Phe Pro His Leu His Ser Leu Leu His		
	145	150 155 160
Thr Leu Leu Leu Asn Arg Leu Thr Phe Cys Asp Ser Asn Val Ile His		
	165	170 175
His Phe Leu Cys Asp Leu Ser Pro Val Leu Lys Leu Ser Cys Ser Ser		
	180	185 190
Ile Phe Val Asn Glu Ile Val Gln Met Thr Glu Ala Pro Ile Val Leu		
	195	200 205
Val Thr Arg Phe Leu Cys Ile Ala Phe Ser Tyr Ile Arg Ile Leu Thr		
	210	215 220
Thr Val Leu Lys Ile Pro Ser Thr Ser Gly Lys Arg Lys Ala Phe Ser		
	225	230 235 240
Thr Cys Gly Phe Tyr Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile		
	245	250 255
Phe Cys Val Tyr Leu Gln Pro Pro Ser Thr Tyr Ala Val Lys Asp His		
	260	265 270
Val Ala Thr Ile Val Tyr Thr Val Leu Ser Ser Met Leu Asn Pro Phe		
	275	280 285
Ile Tyr Ser Leu Arg Asn Lys Asp Leu Lys Gln Gly Leu Arg Lys Leu		
	290	295 300

Met Ser Lys Arg Ser  
305

<210> 105  
<211> 930  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(927)  
<223>

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<400> 105
atg gct gca gga aat cac tct aca gtg aca gag ttc att ctc aag ggt      48
Met Ala Ala Gly Asn His Ser Thr Val Thr Glu Phe Ile Leu Lys Gly
1          5          10          15

tta acg aag aga gca gac ctc cag ctc ccc ctc ttt ctc ctc ttc ctc      96
Leu Thr Lys Arg Ala Asp Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
          20          25          30

ggg atc tac ttg gtc acc atc gtg ggg aac ctg ggc atg atc act cta      144
Gly Ile Tyr Leu Val Thr Ile Val Gly Asn Leu Gly Met Ile Thr Leu
          35          40          45

att tgt ctg aac tct cag ctg cac acc ccc atg tac tac ttt ctc agc      192
Ile Cys Leu Asn Ser Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
          50          55          60

aat ctg tca ctc atg gat ctc tgc tac tcc tcc gtc att acc cct aag      240
Asn Leu Ser Leu Met Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys
65          70          75          80

atg ctg gtg aac ttt gtg tca gag aaa aac atc atc tcc tac gca ggg      288
Met Leu Val Asn Phe Val Ser Glu Lys Asn Ile Ile Ser Tyr Ala Gly
          85          90          95

tgc atg tca cag ctc tac ttc ttc ctt gtt ttt gtc att gct gag tgt      336
Cys Met Ser Gln Leu Tyr Phe Phe Leu Val Phe Val Ile Ala Glu Cys
          100          105          110

tac atg ctg aca gtg atg gcc tac gac cgc tat gtt gcc atc tgc cac      384
Tyr Met Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
          115          120          125

cct ttg ctt tac aac atc att atg tct cat cac acc tgc ctg ctg ctg      432
Pro Leu Leu Tyr Asn Ile Ile Met Ser His His Thr Cys Leu Leu Leu
          130          135          140

gtg gct gtg gtc tac gcc atc gga ctc att ggc tcc aca ata gaa act      480
Val Ala Val Val Tyr Ala Ile Gly Leu Ile Gly Ser Thr Ile Glu Thr
145          150          155          160

ggc ctc atg tta aaa ctg ccc tat tgt gag cac ctc atc agt cac tac      528
Gly Leu Met Leu Lys Leu Pro Tyr Cys Glu His Leu Ile Ser His Tyr
          165          170          175

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ttc tgt gac atc ctc cct ctc atg aag ctg tcc tgc tct agc acc tat 576  
 Phe Cys Asp Ile Leu Pro Leu Met Lys Leu Ser Cys Ser Ser Thr Tyr  
 180 185 190  
 gat gtt gag atg aca gtc ttc ttt tcg gct gga ttc aac atc ata gtc 624  
 Asp Val Glu Met Thr Val Phe Phe Ser Ala Gly Phe Asn Ile Ile Val  
 195 200 205  
 acg agc tta aca gtt ctt gtt tct tac acc ttc att ctc tcc agc atc 672  
 Thr Ser Leu Thr Val Leu Val Ser Tyr Thr Phe Ile Leu Ser Ser Ile  
 210 215 220  
 ctc ggc atc agc acc aca gag ggg aga tcc aaa gcc ttc agc acc tgc 720  
 Leu Gly Ile Ser Thr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 agc tcc cac ctt gca gcc gtg gga atg ttc tat gga tca act gca ttc 768  
 Ser Ser His Leu Ala Ala Val Gly Met Phe Tyr Gly Ser Thr Ala Phe  
 245 250 255  
 atg tac tta aaa ccc tcc aca atc agt tcc ttg acc cag gag aat gtg 816  
 Met Tyr Leu Lys Pro Ser Thr Ile Ser Ser Leu Thr Gln Glu Asn Val  
 260 265 270  
 gcc tct gtg ttc tac acc acg gta atc ccc atg ttg aat ccc cta atc 864  
 Ala Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285  
 tac agc ctg agg aac aag gaa gta aag gct gcc gtg cag aaa acg ctg 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Ala Ala Val Gln Lys Thr Leu  
 290 295 300  
 agg ggt aaa ctg ttt tga 930  
 Arg Gly Lys Leu Phe  
 305

<210> 106  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 106

Met Ala Ala Gly Asn His Ser Thr Val Thr Glu Phe Ile Leu Lys Gly  
1 5 10 15

Leu Thr Lys Arg Ala Asp Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
20 25 30

Gly Ile Tyr Leu Val Thr Ile Val Gly Asn Leu Gly Met Ile Thr Leu  
35 40 45

Ile Cys Leu Asn Ser Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60

Asn Leu Ser Leu Met Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80

Met Leu Val Asn Phe Val Ser Glu Lys Asn Ile Ile Ser Tyr Ala Gly  
85 90 95

Cys Met Ser Gln Leu Tyr Phe Phe Leu Val Phe Val Ile Ala Glu Cys  
100 105 110

Tyr Met Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
115 120 125

Pro Leu Leu Tyr Asn Ile Ile Met Ser His His Thr Cys Leu Leu Leu  
130 135 140

Val Ala Val Val Tyr Ala Ile Gly Leu Ile Gly Ser Thr Ile Glu Thr  
145 150 155 160

Gly Leu Met Leu Lys Leu Pro Tyr Cys Glu His Leu Ile Ser His Tyr  
165 170 175

Phe Cys Asp Ile Leu Pro Leu Met Lys Leu Ser Cys Ser Ser Thr Tyr  
180 185 190

Asp Val Glu Met Thr Val Phe Phe Ser Ala Gly Phe Asn Ile Ile Val  
195 200 205

Thr Ser Leu Thr Val Leu Val Ser Tyr Thr Phe Ile Leu Ser Ser Ile  
210 215 220

Leu Gly Ile Ser Thr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
225 230 235 240

Ser Ser His Leu Ala Ala Val Gly Met Phe Tyr Gly Ser Thr Ala Phe  
245 250 255

Met Tyr Leu Lys Pro Ser Thr Ile Ser Ser Leu Thr Gln Glu Asn Val  
260 265 270

Ala Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Ala Ala Val Gln Lys Thr Leu  
290 295 300

Arg Gly Lys Leu Phe

305

<210> 107  
 <211> 963  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(960)  
 <223>

<400> 107  
 atg agt tcc tgc aac ttc aca cat gcc acc tgt gtg ctt att ggt atc 48  
 Met Ser Ser Cys Asn Phe Thr His Ala Thr Cys Val Leu Ile Gly Ile  
 1 5 10 15  
 cca gga tta gag aaa gcc cat ttc tgg gtt ggc ttc ccc ctc ctt tcc 96  
 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser  
 20 25 30  
 atg tat gta gtg gca atg tgt gga aac tgc atc gtg gtc ttc atc gta 144  
 Met Tyr Val Val Ala Met Cys Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45  
 agg acg gaa cgc agc ctg cac gct ccg atg tac ctc ttt ctc tgc atg 192  
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60  
 ctt gca gcc att gac ctg gcc tta tcc aca tcc acc atg cct aag atc 240  
 Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile  
 65 70 75 80  
 ctt gcc ctt ttc tgg ttt gat tcc cga gag att agc att gag gcc tgt 288  
 Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Ile Glu Ala Cys  
 85 90 95  
 ctt acc cag atg ttc ttt att cat gcc ctc tca gcc att gaa tcc acc 336  
 Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr  
 100 105 110  
 atc ctg ctg gcc atg gcc ttt gac cgt tat gtg gcc atc tgc cac cca 384  
 Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro  
 115 120 125  
 ctg cgc cat gct gca gtg ctc aac aat aca gta aca gcc cag att ggc 432  
 Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly  
 130 135 140  
 atc gtg gct gtg gtc cgc gga tcc ctc ttt ttt ttc cca ctg cct ctg 480  
 Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu  
 145 150 155 160  
 ctg atc aag cgg ctg gcc ttc tgc cac tcc aat gtc ctc tcg cac tcc 528  
 Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser  
 165 170 175  
 tat tgt gtc cac cag gat gta atg aag ttg gcc tat gca gac act ttg 576  
 Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu

	180	185	190	
ccc aat gtg gta tat ggt ctt act gcc att ctg ctg gtc atg ggc gtg				624
Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val				
	195	200	205	
gac gta atg ttc atc tcc ttg tcc tat ttt ctg ata ata cga acg gtt				672
Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val				
	210	215	220	
ctg caa ctg cct tcc aag tca gag cgg gcc aag gcc ttt gga acc tgt				720
Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys				
	225	230	235	240
gtg tca cac att ggt gtg gta ctc gcc ttc tat gtg cca ctt att ggc				768
Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly				
	245	250	255	
ctc tca gtt gta cac cgc ttt gga aac agc ctt cat ccc att gtg cgt				816
Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg				
	260	265	270	
gtt gtc atg ggt gac atc tac ctg ctg ctg cct cct gtc atc aat ccc				864
Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro				
	275	280	285	
atc atc tat ggt gcc aaa acc aaa cag atc aga aca cgg gtg ctg gct				912
Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala				
	290	295	300	
atg ttc aag atc agc tgt gac aag gac ttg cag gct gtg gga ggc aag				960
Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys				
	305	310	315	320
tga				963

<210> 108  
 <211> 320  
 <212> PRT  
 <213> Homo Sapiens

<400> 108

Met Ser Ser Cys Asn Phe Thr His Ala Thr Cys Val Leu Ile Gly Ile  
 1 5 10 15

Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser  
 20 25 30

Met Tyr Val Val Ala Met Cys Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile

65		70		75		80									
Leu	Ala	Leu	Phe	Trp	Phe	Asp	Ser	Arg	Glu	Ile	Ser	Ile	Glu	Ala	Cys
				85					90					95	
Leu	Thr	Gln	Met	Phe	Phe	Ile	His	Ala	Leu	Ser	Ala	Ile	Glu	Ser	Thr
			100					105					110		
Ile	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	Pro
		115						120					125		
Leu	Arg	His	Ala	Ala	Val	Leu	Asn	Asn	Thr	Val	Thr	Ala	Gln	Ile	Gly
	130						135					140			
Ile	Val	Ala	Val	Val	Arg	Gly	Ser	Leu	Phe	Phe	Phe	Pro	Leu	Pro	Leu
145					150					155					160
Leu	Ile	Lys	Arg	Leu	Ala	Phe	Cys	His	Ser	Asn	Val	Leu	Ser	His	Ser
				165					170					175	
Tyr	Cys	Val	His	Gln	Asp	Val	Met	Lys	Leu	Ala	Tyr	Ala	Asp	Thr	Leu
			180					185					190		
Pro	Asn	Val	Val	Tyr	Gly	Leu	Thr	Ala	Ile	Leu	Leu	Val	Met	Gly	Val
		195					200					205			
Asp	Val	Met	Phe	Ile	Ser	Leu	Ser	Tyr	Phe	Leu	Ile	Ile	Arg	Thr	Val
	210					215					220				
Leu	Gln	Leu	Pro	Ser	Lys	Ser	Glu	Arg	Ala	Lys	Ala	Phe	Gly	Thr	Cys
225					230					235					240
Val	Ser	His	Ile	Gly	Val	Val	Leu	Ala	Phe	Tyr	Val	Pro	Leu	Ile	Gly
				245					250					255	
Leu	Ser	Val	Val	His	Arg	Phe	Gly	Asn	Ser	Leu	His	Pro	Ile	Val	Arg
			260					265					270		
Val	Val	Met	Gly	Asp	Ile	Tyr	Leu	Leu	Leu	Pro	Pro	Val	Ile	Asn	Pro
		275					280					285			
Ile	Ile	Tyr	Gly	Ala	Lys	Thr	Lys	Gln	Ile	Arg	Thr	Arg	Val	Leu	Ala
	290					295					300				
Met	Phe	Lys	Ile	Ser	Cys	Asp	Lys	Asp	Leu	Gln	Ala	Val	Gly	Gly	Lys
305					310					315					320

<210> 109  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (930)  
 <223>

<400> 109  
 atg gca gcc aaa aac tct tct gtg aca gag ttt atc ctc gaa ggc tta 48  
 Met Ala Ala Lys Asn Ser Ser Val Thr Glu Phe Ile Leu Glu Gly Leu  
 1 5 10 15

acc cac cag ccg gga ctg cgg atc ccc ctc ttc ttc ctg ttt ctg ggt 96  
 Thr His Gln Pro Gly Leu Arg Ile Pro Leu Phe Phe Leu Phe Leu Gly  
 20 25 30

ttc tac acg gtc acc gtg gtg ggg aac ctg ggc ttg ata acc ctg att 144  
 Phe Tyr Thr Val Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu Ile  
 35 40 45

ggg ctg aac tct cac ctg cac act ccc atg tac ttc ttc ctt ttt aac 192  
 Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe Asn  
 50 55 60

ctc tct tta ata gat ttc tgt ttc tcc act acc atc act ccc aaa atg 240  
 Leu Ser Leu Ile Asp Phe Cys Phe Ser Thr Thr Ile Thr Pro Lys Met  
 65 70 75 80

ctg atg agt ttt gtc tca agg aag aac atc att tcc ttc aca ggg tgt 288  
 Leu Met Ser Phe Val Ser Arg Lys Asn Ile Ile Ser Phe Thr Gly Cys  
 85 90 95

atg act cag ctc ttc ttc ttc tgc ttc ttt gtc gtc tct gag tcc ttc 336  
 Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Val Ser Glu Ser Phe  
 100 105 110

atc ctg tca gcg atg gcg tat gac cgc tac gtg gcc atc tgt aac cca 384  
 Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
 115 120 125

ctg ttg tac aca gtc acc atg tct tgc cag gtg tgt ttg ctc ctt ttg 432  
 Leu Leu Tyr Thr Val Thr Met Ser Cys Gln Val Cys Leu Leu Leu Leu  
 130 135 140

ttg ggt gcc tat ggg atg ggg ttt gct ggg gcc atg gcc cac aca gga 480  
 Leu Gly Ala Tyr Gly Met Gly Phe Ala Gly Ala Met Ala His Thr Gly  
 145 150 155 160

agc ata atg aac ctg acc ttc tgt gct gac aac ctt gtc aat cat ttc 528  
 Ser Ile Met Asn Leu Thr Phe Cys Ala Asp Asn Leu Val Asn His Phe  
 165 170 175

atg tgt gac atc ctt cct ctc ctt gag ctc tcc tgc aac agc tct tac 576  
 Met Cys Asp Ile Leu Pro Leu Leu Glu Leu Ser Cys Asn Ser Ser Tyr  
 180 185 190



atg aat gag ctg gtg gtc ttt att gtg gtg gct gtt gac gtt gga atg 624  
Met Asn Glu Leu Val Val Phe Ile Val Val Ala Val Asp Val Gly Met  
195 200 205

ccc att gtc act gtc ttt att tct tat gcc ctc atc ctc tcc agc att 672  
Pro Ile Val Thr Val Phe Ile Ser Tyr Ala Leu Ile Leu Ser Ser Ile  
210 215 220

cta cac aac agt tct aca gaa ggc agg tcc aaa gcc ttt agt act tgc 720  
Leu His Asn Ser Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
225 230 235 240

agt tcc cac ata att gta gtt tct ctt ttc ttt ggt tct ggt gct ttc 768  
Ser Ser His Ile Ile Val Val Ser Leu Phe Phe Gly Ser Gly Ala Phe  
245 250 255

atg tat ctc aaa ccc ctt tcc atc ctg ccc ctc gag caa ggg aaa gtg 816  
Met Tyr Leu Lys Pro Leu Ser Ile Leu Pro Leu Glu Gln Gly Lys Val  
260 265 270

tcc tcc ctg ttc tat acc ata ata gtc ccc gtg tta aac cca tta atc 864  
Ser Ser Leu Phe Tyr Thr Ile Ile Val Pro Val Leu Asn Pro Leu Ile  
275 280 285

tat agc ttg agg aac aag gat gtc aaa gtt gcc ctg agg aga act ttg 912  
Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Arg Thr Leu  
290 295 300

ggc aga aaa atc ttt tct taa 933  
Gly Arg Lys Ile Phe Ser  
305 310

<210> 110

<211> 310

<212> PRT

<213> Homo Sapiens

<400> 110

Met Ala Ala Lys Asn Ser Ser Val Thr Glu Phe Ile Leu Glu Gly Leu  
1 5 10 15

Thr His Gln Pro Gly Leu Arg Ile Pro Leu Phe Phe Leu Phe Leu Gly  
20 25 30

Phe Tyr Thr Val Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu Ile  
35 40 45

Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe Asn  
50 55 60

Leu Ser Leu Ile Asp Phe Cys Phe Ser Thr Thr Ile Thr Pro Lys Met  
65 70 75 80

Leu Met Ser Phe Val Ser Arg Lys Asn Ile Ile Ser Phe Thr Gly Cys  
85 90 95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Val Ser Glu Ser Phe  
100 105 110

Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
115 120 125

Leu Leu Tyr Thr Val Thr Met Ser Cys Gln Val Cys Leu Leu Leu Leu  
130 135 140

Leu Gly Ala Tyr Gly Met Gly Phe Ala Gly Ala Met Ala His Thr Gly  
145 150 155 160

Ser Ile Met Asn Leu Thr Phe Cys Ala Asp Asn Leu Val Asn His Phe  
165 170 175

Met Cys Asp Ile Leu Pro Leu Leu Glu Leu Ser Cys Asn Ser Ser Tyr  
180 185 190

Met Asn Glu Leu Val Val Phe Ile Val Val Ala Val Asp Val Gly Met  
195 200 205

Pro Ile Val Thr Val Phe Ile Ser Tyr Ala Leu Ile Leu Ser Ser Ile  
210 215 220

Leu His Asn Ser Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
225 230 235 240

Ser Ser His Ile Ile Val Val Ser Leu Phe Phe Gly Ser Gly Ala Phe  
245 250 255

Met Tyr Leu Lys Pro Leu Ser Ile Leu Pro Leu Glu Gln Gly Lys Val  
260 265 270

Ser Ser Leu Phe Tyr Thr Ile Ile Val Pro Val Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Arg Thr Leu  
290 295 300

Gly Arg Lys Ile Phe Ser  
305 310

<210> 111

<211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (948)  
 <223>

<400> 111  
 atg cct taa atg aca atg gct gct gag aat tcc tcc ttc gtg aca cag 48  
 Met Pro Met Thr Met Ala Ala Glu Asn Ser Ser Phe Val Thr Gln  
 1 5 10 15

ttt atc ctc gca ggc tta act gac caa ccg gga gtc cag atc ccc ctc 96  
 Phe Ile Leu Ala Gly Leu Thr Asp Gln Pro Gly Val Gln Ile Pro Leu  
 20 25 30

ttc ttc ctg ttt cta ggc ttc tac gtg gtc act gtg gtg ggg aac ctg 144  
 Phe Phe Leu Phe Leu Gly Phe Tyr Val Val Thr Val Val Gly Asn Leu  
 35 40 45

ggc ttg ata acc ctg ata agg ctc aac tct cac ttg cac acc cct atg 192  
 Gly Leu Ile Thr Leu Ile Arg Leu Asn Ser His Leu His Thr Pro Met  
 50 55 60

tac ttc ttc ctc tat aac ttg tcc ttc ata gat ttc tgc tat tcc agt 240  
 Tyr Phe Phe Leu Tyr Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser  
 65 70 75

gtt atc act ccc aaa atg ctg atg agc ttt gtc tta aag aag aac agc 288  
 Val Ile Thr Pro Lys Met Leu Met Ser Phe Val Leu Lys Lys Asn Ser  
 80 85 90 95

atc tcc tac gca ggg tgt atg act cag ctc ttc ttc ttt ctt ttc ttt 336  
 Ile Ser Tyr Ala Gly Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe  
 100 105 110

gtt gtc tct gag tcc ttc atc ctg tca gca atg gcg tat gac cgc tat 384  
 Val Val Ser Glu Ser Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr  
 115 120 125

gtg gcc atc tgt aac cca ctg ttg tac atg gtc acc atg tct ccc cag 432  
 Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Thr Met Ser Pro Gln  
 130 135 140

gtg tgt ttt ctc ctt ttg ttg ggt gtc tat ggg atg ggg ttt gct ggg 480  
 Val Cys Phe Leu Leu Leu Leu Gly Val Tyr Gly Met Gly Phe Ala Gly  
 145 150 155

gcc atg gcc cac aca gcg tgc atg atg ggt gtg acc ttc tgt gcc aat 528  
 Ala Met Ala His Thr Ala Cys Met Met Gly Val Thr Phe Cys Ala Asn  
 160 165 170 175

aac ctt gtc aac cac tac atg tgt gac atc ctt ccc ctt ctt gag tgt 576  
 Asn Leu Val Asn His Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Cys  
 180 185 190

gct tgc acc agc acc tat gtg aat gag ctt gta gtg ttt gtt gtt gtg 624  
 Ala Cys Thr Ser Thr Tyr Val Asn Glu Leu Val Val Phe Val Val Val

195	200	205	
ggc att gat att ggt gtg ccc aca gtc acc atc ttc att tcc tat gct Gly Ile Asp Ile Gly Val Pro Thr Val Thr Ile Phe Ile Ser Tyr Ala 210 215 220			672
ctc att ctc tcc agc atc ttc cac att gat tcc acg gag ggc agg tcc Leu Ile Leu Ser Ser Ile Phe His Ile Asp Ser Thr Glu Gly Arg Ser 225 230 235			720
aaa gcc ttc agc acc tgc agc tcc cac ata att gca gtt tct ctg ttc Lys Ala Phe Ser Thr Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe 240 245 250 255			768
ttt ggg tca gga gca ttc atg tac ctc aaa ccc ttt tct ctt tta gct Phe Gly Ser Gly Ala Phe Met Tyr Leu Lys Pro Phe Ser Leu Leu Ala 260 265 270			816
atg aac cag ggc aag gtg tct tcc cta ttc tat acc act gtg gtg ccc Met Asn Gln Gly Lys Val Ser Ser Leu Phe Tyr Thr Thr Val Val Pro 275 280 285			864
atg ctc aac cca tta att tat agc ctg agg aat aag gac gtc aaa gtt Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val 290 295 300			912
gct cta aag aaa atc ttg aac aaa aat gca ttc tcc tga Ala Leu Lys Lys Ile Leu Asn Lys Asn Ala Phe Ser 305 310 315			951

<210> 112  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 112

Met Thr Met Ala Ala Glu Asn Ser Ser Phe Val Thr Gln Phe Ile Leu 1 5 10 15
Ala Gly Leu Thr Asp Gln Pro Gly Val Gln Ile Pro Leu Phe Phe Leu 20 25 30
Phe Leu Gly Phe Tyr Val Val Thr Val Val Gly Asn Leu Gly Leu Ile 35 40 45
Thr Leu Ile Arg Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe 50 55 60
Leu Tyr Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser Val Ile Thr 65 70 75 80
Pro Lys Met Leu Met Ser Phe Val Leu Lys Lys Asn Ser Ile Ser Tyr 85 90 95

Ala Gly Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Val Ser  
100 105 110

Glu Ser Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile  
115 120 125

Cys Asn Pro Leu Leu Tyr Met Val Thr Met Ser Pro Gln Val Cys Phe  
130 135 140

Leu Leu Leu Leu Gly Val Tyr Gly Met Gly Phe Ala Gly Ala Met Ala  
145 150 155 160

His Thr Ala Cys Met Met Gly Val Thr Phe Cys Ala Asn Asn Leu Val  
165 170 175

Asn His Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Cys Ala Cys Thr  
180 185 190

Ser Thr Tyr Val Asn Glu Leu Val Val Phe Val Val Val Gly Ile Asp  
195 200 205

Ile Gly Val Pro Thr Val Thr Ile Phe Ile Ser Tyr Ala Leu Ile Leu  
210 215 220

Ser Ser Ile Phe His Ile Asp Ser Thr Glu Gly Arg Ser Lys Ala Phe  
225 230 235 240

Ser Thr Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser  
245 250 255

Gly Ala Phe Met Tyr Leu Lys Pro Phe Ser Leu Leu Ala Met Asn Gln  
260 265 270

Gly Lys Val Ser Ser Leu Phe Tyr Thr Thr Val Val Pro Met Leu Asn  
275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Lys  
290 295 300

Lys Ile Leu Asn Lys Asn Ala Phe Ser  
305 310

<210> 113

<211> 945

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (942)

&lt;223&gt;

&lt;400&gt; 113

atg	gaa	aaa	aga	aat	cta	aca	gtt	gtc	agg	gaa	ttc	gtc	ctt	ctg	gga	48
Met	Glu	Lys	Arg	Asn	Leu	Thr	Val	Val	Arg	Glu	Phe	Val	Leu	Leu	Gly	
1				5					10					15		

ctt	cct	agc	tca	gca	gag	cag	cag	cac	ctc	ctg	tct	gtg	ctc	ttt	ctc	96
Leu	Pro	Ser	Ser	Ala	Glu	Gln	Gln	His	Leu	Leu	Ser	Val	Leu	Phe	Leu	
			20					25					30			

tgt	atg	tat	tta	gcc	acc	acc	ttg	ggg	aac	atg	ctc	atc	att	gcg	acg	144
Cys	Met	Tyr	Leu	Ala	Thr	Thr	Leu	Gly	Asn	Met	Leu	Ile	Ile	Ala	Thr	
		35					40					45				

att	ggc	ttt	gac	tct	cac	ctc	cat	tcc	cct	atg	tac	ttc	ttc	ctt	agt	192
Ile	Gly	Phe	Asp	Ser	His	Leu	His	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	
	50					55				60						

aac	ttg	gcc	ttt	gtt	gac	atc	tgc	ttt	acg	tcg	act	aca	gtc	ccc	caa	240
Asn	Leu	Ala	Phe	Val	Asp	Ile	Cys	Phe	Thr	Ser	Thr	Thr	Val	Pro	Gln	
65					70				75					80		

atg	gta	gtg	aat	atc	ttg	act	ggc	acc	aag	act	atc	tct	ttt	gca	ggc	288
Met	Val	Val	Asn	Ile	Leu	Thr	Gly	Thr	Lys	Thr	Ile	Ser	Phe	Ala	Gly	
			85						90					95		

tgc	ctc	acc	cag	ctc	ttc	ttc	ttc	gtt	tct	ttt	gtg	aat	atg	gac	agc	336
Cys	Leu	Thr	Gln	Leu	Phe	Phe	Phe	Val	Ser	Phe	Val	Asn	Met	Asp	Ser	
			100					105					110			

ctc	ctt	ctg	tgt	gtg	atg	gcg	tat	gat	aga	tat	gtg	gcg	att	tgc	cac	384
Leu	Leu	Leu	Cys	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	
		115					120					125				

ccc	tta	cat	tac	acc	gcc	aga	atg	aac	ctg	tgc	ctt	tgt	gtc	cag	cta	432
Pro	Leu	His	Tyr	Thr	Ala	Arg	Met	Asn	Leu	Cys	Leu	Cys	Val	Gln	Leu	
	130					135					140					

gtg	gct	gga	ctg	tgg	ctt	gtt	act	tac	ctc	cac	gcc	ctc	ctg	cat	act	480
Val	Ala	Gly	Leu	Trp	Leu	Val	Thr	Tyr	Leu	His	Ala	Leu	Leu	His	Thr	
145				150						155				160		

gtc	cta	ata	gca	cag	ctg	tcc	ttc	tgt	gcc	tcc	aat	atc	atc	cat	cat	528
Val	Leu	Ile	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Ser	Asn	Ile	Ile	His	His	
			165					170						175		

ttc	ttc	tgt	gat	ctc	aat	cct	ctc	ctg	cag	ctc	tct	tgc	tct	gac	gtc	576
Phe	Phe	Cys	Asp	Leu	Asn	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Ser	Asp	Val	
			180					185					190			

tcc	ttc	aat	gta	atg	atc	att	ttt	gca	gta	gga	ggg	cta	ttg	gct	ctc	624
Ser	Phe	Asn	Val	Met	Ile	Ile	Phe	Ala	Val	Gly	Gly	Leu	Leu	Ala	Leu	
		195					200					205				

acg	ccc	ctt	gtc	tgt	atc	ctc	gta	tct	tat	gga	ctt	atc	ttc	tcc	act	672
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr  
 210 215 220  
 gtt ctg aag atc acc tct act cag ggc aag cag aga gct gtt tcc acc 720  
 Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr  
 225 230 235 240  
 tgc agc tgc cac ctg tca gtg gtg gtg ttg ttt tac ggc aca gcc atc 768  
 Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile  
 245 250 255  
 gcc gtc tat ttc agc cct tca tcc ccc cat atg cct gag agc gac act 816  
 Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr  
 260 265 270  
 ctg tca acc atc atg tat tca atg gtg gct ccg atg ctg aat cct ttc 864  
 Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe  
 275 280 285  
 atc tat acc cta agg aac agg gat atg aag agg gga ctt cag aaa atg 912  
 Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met  
 290 295 300  
 ctt ctc aag tgc aca gtc ttt cag cag caa taa 945  
 Leu Leu Lys Cys Thr Val Phe Gln Gln Gln  
 305 310

<210> 114  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 114

Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly  
 1 5 10 15

Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu  
 20 25 30

Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr  
 35 40 45

Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln  
 65 70 75 80

Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly  
 85 90 95

Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser  
 100 105 110

Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu  
 130 135 140

Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr  
 145 150 155 160

Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His  
 165 170 175

Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val  
 180 185 190

Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu  
 195 200 205

Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr  
 210 215 220

Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr  
 225 230 235 240

Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile  
 245 250 255

Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr  
 260 265 270

Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met  
 290 295 300

Leu Leu Lys Cys Thr Val Phe Gln Gln Gln  
 305 310

<210> 115  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS



&lt;222&gt; (1)..(927)

&lt;223&gt;

&lt;400&gt; 115

atg gca aat ctc aca atc gtg act gaa ttt atc ctt atg ggg ttt tct	48
Met Ala Asn Leu Thr Ile Val Thr Glu Phe Ile Leu Met Gly Phe Ser	
1 5 10 15	
acc aat aaa aat atg tgc att ttg cat tcg att ctc ttc ttg ttg att	96
Thr Asn Lys Asn Met Cys Ile Leu His Ser Ile Leu Phe Leu Leu Ile	
20 25 30	
tat ttg tgt gcc ctg atg ggg aat gtc ctc att atc atg atc aca act	144
Tyr Leu Cys Ala Leu Met Gly Asn Val Leu Ile Ile Met Ile Thr Thr	
35 40 45	
ttg gac cat cat ctc cac acc ccc gtg tat ttc ttc ttg aag aat cta	192
Leu Asp His His Leu His Thr Pro Val Tyr Phe Phe Leu Lys Asn Leu	
50 55 60	
tct ttc ttg gat ctc tgc ctt att tca gtc acg gct ccc aaa tct atc	240
Ser Phe Leu Asp Leu Cys Leu Ile Ser Val Thr Ala Pro Lys Ser Ile	
65 70 75 80	
gcc aat tct ttg ata cac aac aac tcc att tca ttc ctt ggc tgt gtt	288
Ala Asn Ser Leu Ile His Asn Asn Ser Ile Ser Phe Leu Gly Cys Val	
85 90 95	
tcc cag gtc ttt ttg ttg ctt tct tca gca tct gca gag ctg ctc ctc	336
Ser Gln Val Phe Leu Leu Leu Ser Ser Ala Ser Ala Glu Leu Leu Leu	
100 105 110	
ctc acg gtg atg tcc ttt gac cgc tat act gct ata tgt cac cct ctg	384
Leu Thr Val Met Ser Phe Asp Arg Tyr Thr Ala Ile Cys His Pro Leu	
115 120 125	
cac tat gat gtc atc atg gac agg agc acc tgt gtc caa aga gcc act	432
His Tyr Asp Val Ile Met Asp Arg Ser Thr Cys Val Gln Arg Ala Thr	
130 135 140	
gtg tct tgg ctg tat ggg ggt ctg att gct gtg atg cac aca gct ggc	480
Val Ser Trp Leu Tyr Gly Gly Leu Ile Ala Val Met His Thr Ala Gly	
145 150 155 160	
acc ttc tcc tta tcc tac tgt ggg tcc aac atg gtc cat cag ttc ttc	528
Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Met Val His Gln Phe Phe	
165 170 175	
tgt gac att ccc cag tta tta gct att tct tgc tca gaa aat tta ata	576
Cys Asp Ile Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu Asn Leu Ile	
180 185 190	
aga gaa att gca ctc atc ctt att aat gta gtt ttg gat ttc tgc tgt	624
Arg Glu Ile Ala Leu Ile Leu Ile Asn Val Val Leu Asp Phe Cys Cys	
195 200 205	
ttt att gtc atc atc att acc tat gtc cac gtc ttc tct aca gtc aag	672
Phe Ile Val Ile Ile Ile Thr Tyr Val His Val Phe Ser Thr Val Lys	
210 215 220	

aag atc cct tcc aca gaa ggc cag tca aaa gcc tac tct att tgc ctt 720  
 Lys Ile Pro Ser Thr Glu Gly Gln Ser Lys Ala Tyr Ser Ile Cys Leu  
 225 230 235 240  
 cca cac ttg ctg gtt gtg tta ttt ctt tcc act gga ttc att gct tat 768  
 Pro His Leu Leu Val Val Leu Phe Leu Ser Thr Gly Phe Ile Ala Tyr  
 245 250 255  
 ctg aag cca gct tca gag tct cct tct att ttg gat gct gta att tct 816  
 Leu Lys Pro Ala Ser Glu Ser Pro Ser Ile Leu Asp Ala Val Ile Ser  
 260 265 270  
 gtg ttc tac act atg ctg ccc cca acc ttt aat ccc att ata tac agt 864  
 Val Phe Tyr Thr Met Leu Pro Thr Phe Asn Pro Ile Ile Tyr Ser  
 275 280 285  
 ttg aga aac aag gcc ata aag gtg gct ctg ggg atg ttg ata aag gga 912  
 Leu Arg Asn Lys Ala Ile Lys Val Ala Leu Gly Met Leu Ile Lys Gly  
 290 295 300  
 aag ctc acc aaa aag taa 930  
 Lys Leu Thr Lys Lys  
 305

<210> 116  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 116

Met Ala Asn Leu Thr Ile Val Thr Glu Phe Ile Leu Met Gly Phe Ser  
1 5 10 15

Thr Asn Lys Asn Met Cys Ile Leu His Ser Ile Leu Phe Leu Leu Ile  
20 25 30

Tyr Leu Cys Ala Leu Met Gly Asn Val Leu Ile Ile Met Ile Thr Thr  
35 40 45

Leu Asp His His Leu His Thr Pro Val Tyr Phe Phe Leu Lys Asn Leu  
50 55 60

Ser Phe Leu Asp Leu Cys Leu Ile Ser Val Thr Ala Pro Lys Ser Ile  
65 70 75 80

Ala Asn Ser Leu Ile His Asn Asn Ser Ile Ser Phe Leu Gly Cys Val  
85 90 95

Ser Gln Val Phe Leu Leu Leu Ser Ser Ala Ser Ala Glu Leu Leu Leu  
100 105 110

Leu Thr Val Met Ser Phe Asp Arg Tyr Thr Ala Ile Cys His Pro Leu

115	120	125
His Tyr Asp Val Ile Met Asp Arg Ser Thr Cys Val Gln Arg Ala Thr 130 135 140		
Val Ser Trp Leu Tyr Gly Gly Leu Ile Ala Val Met His Thr Ala Gly 145 150 155 160		
Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Met Val His Gln Phe Phe 165 170 175		
Cys Asp Ile Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu Asn Leu Ile 180 185 190		
Arg Glu Ile Ala Leu Ile Leu Ile Asn Val Val Leu Asp Phe Cys Cys 195 200 205		
Phe Ile Val Ile Ile Ile Thr Tyr Val His Val Phe Ser Thr Val Lys 210 215 220		
Lys Ile Pro Ser Thr Glu Gly Gln Ser Lys Ala Tyr Ser Ile Cys Leu 225 230 235 240		
Pro His Leu Leu Val Val Leu Phe Leu Ser Thr Gly Phe Ile Ala Tyr 245 250 255		
Leu Lys Pro Ala Ser Glu Ser Pro Ser Ile Leu Asp Ala Val Ile Ser 260 265 270		
Val Phe Tyr Thr Met Leu Pro Pro Thr Phe Asn Pro Ile Ile Tyr Ser 275 280 285		
Leu Arg Asn Lys Ala Ile Lys Val Ala Leu Gly Met Leu Ile Lys Gly 290 295 300		
Lys Leu Thr Lys Lys 305		

<210> 117  
 <211> 966  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (963)  
 <223>

<400> 117  
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 Met Pro Ile Leu Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe  
 1 5 10 15

atc ctc atg agc ttc tct tcc cta cct act gaa ata cag tca ttg ctc 96  
 Ile Leu Met Ser Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu  
 20 25 30

ttc ctg aca ttt cta act atc tat ttg gtt act ctg aag gga aac agc 144  
 Phe Leu Thr Phe Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser  
 35 40 45

ctc atc att ctg gtt acc cta gct gac ccc atg cta cac agc ccc atg 192  
 Leu Ile Ile Leu Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met  
 50 55 60

tac ttc ttc ctc aga aac tta tct ttc ctg gag att ggc ttc aac cta 240  
 Tyr Phe Phe Leu Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu  
 65 70 75 80

gtc att gtg ccc aaa atg ctg ggg acc ctg ctt gcc cag gac aca acc 288  
 Val Ile Val Pro Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr  
 85 90 95

atc tcc ttc ctt ggc tgt gcc act cag atg tat ttc ttc ttc ttc ttt 336  
 Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe  
 100 105 110

ggg gta gct gaa tgc ttc ctc ctg gct acc atg gca tat gac cgc tat 384  
 Gly Val Ala Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr  
 115 120 125

gtg gcc atc tgc agt ccc ttg cac tac cca gtc atc atg aac caa agg 432  
 Val Ala Ile Cys Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg  
 130 135 140

aca cgg gcc aaa ctg gct gct gct tcc tgg ttc cca ggc ttt cct gta 480  
 Thr Arg Ala Lys Leu Ala Ala Ala Ser Trp Phe Pro Gly Phe Pro Val  
 145 150 155 160

gct act gtg cag acc aca tgg ctc ttc agt ttt cca ttc tgt ggc acc 528  
 Ala Thr Val Gln Thr Thr Trp Leu Phe Ser Phe Pro Phe Cys Gly Thr  
 165 170 175

aac aag gtg aac cac ttc ttc tgt gac agc ccg cct gtg ctg aag ctg 576  
 Asn Lys Val Asn His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu  
 180 185 190

gtc tgt gca gac aca gca ctg ttt gag atc tac gcc atc gtc gga acc 624  
 Val Cys Ala Asp Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr  
 195 200 205

att ctg gtg gtc atg atc ccc tgc ttg ctg atc ttg tgt tcc tat act 672  
 Ile Leu Val Val Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr  
 210 215 220

cgc att gct gct gct atc ctc aag atc cca tca gct aaa ggg aag cat 720  
 Arg Ile Ala Ala Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His  
 225 230 235 240

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aaa gcc ttc tct acg tgc tcc tca cac ctc ctt gtt gtc tct ctt ttc      768
Lys Ala Phe Ser Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe
                245                250                255

tat ata tct tct agc ctc acc tac ttc tgg cct aaa tca aat aat tct      816
Tyr Ile Ser Ser Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser
                260                265                270

cct gag agc aag aag ttg tta tca tta tcc tac act gtt gtg act ccc      864
Pro Glu Ser Lys Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro
                275                280                285

atg ttg aac ccc att atc tac agc ttg aga aat agc gag gtg aag aat      912
Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn
                290                295                300

gcc ctc agc agg acc ttc cac aag gtc cta gcc ctc aga aac tgt atc      960
Ala Leu Ser Arg Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile
305                310                315                320

cca tag
Pro
                                                                966

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<210> 118
<211> 321
<212> PRT
<213> Homo Sapiens

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<400> 118

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Met Pro Ile Leu Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe
1                5                10                15

Ile Leu Met Ser Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu
                20                25                30

Phe Leu Thr Phe Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser
                35                40                45

Leu Ile Ile Leu Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met
                50                55                60

Tyr Phe Phe Leu Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu
65                70                75                80

Val Ile Val Pro Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr
                85                90                95

Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe
                100                105                110

```

Gly Val Ala Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr  
 115 120 125  
 Val Ala Ile Cys Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg  
 130 135 140  
 Thr Arg Ala Lys Leu Ala Ala Ala Ser Trp Phe Pro Gly Phe Pro Val  
 145 150 155 160  
 Ala Thr Val Gln Thr Thr Trp Leu Phe Ser Phe Pro Phe Cys Gly Thr  
 165 170 175  
 Asn Lys Val Asn His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu  
 180 185 190  
 Val Cys Ala Asp Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr  
 195 200 205  
 Ile Leu Val Val Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr  
 210 215 220  
 Arg Ile Ala Ala Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His  
 225 230 235 240  
 Lys Ala Phe Ser Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe  
 245 250 255  
 Tyr Ile Ser Ser Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser  
 260 265 270  
 Pro Glu Ser Lys Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro  
 275 280 285  
 Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn  
 290 295 300  
 Ala Leu Ser Arg Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile  
 305 310 315 320

Pro

<210> 119  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (930)

&lt;223&gt;

&lt;400&gt; 119

caa act atg aga cag ata aat cag aca caa gtg aca gaa ttc ctc ctt	48
Gln Thr Met Arg Gln Ile Asn Gln Thr Gln Val Thr Glu Phe Leu Leu	
1 5 10 15	
ctg gga ctc tct gat ggg cca cac acc gag cag ctg cta ttt atc gta	96
Leu Gly Leu Ser Asp Gly Pro His Thr Glu Gln Leu Leu Phe Ile Val	
20 25 30	
tta ttg ggt gtc tac ctg gtc act gtg ctt gga aat ctg ctt cta atc	144
Leu Leu Gly Val Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Leu Ile	
35 40 45	
tcc ctt gtt cat gtt gac tcc caa ctt cac aca ccc atg tat ttt ttt	192
Ser Leu Val His Val Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe	
50 55 60	
ctc tgc aac ttg tct ctg gct gac ctc tgt ttc tct acc aac ata gtt	240
Leu Cys Asn Leu Ser Leu Ala Asp Leu Cys Phe Ser Thr Asn Ile Val	
65 70 75 80	
cct cag gca cta gtc cac ctg ctt tcc aga aag aag gtc att gca ttc	288
Pro Gln Ala Leu Val His Leu Leu Ser Arg Lys Lys Val Ile Ala Phe	
85 90 95	
aca ctt tgc gca gct cga ctt ctc ttt ttc ctc att ttt ggg tgt acc	336
Thr Leu Cys Ala Ala Arg Leu Leu Phe Phe Leu Ile Phe Gly Cys Thr	
100 105 110	
cag tgc gcc ctt ctt gca gtg atg tcc tat gat cgc tat gtt gca atc	384
Gln Cys Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aat cct ctg cgt tac cct aac atc atg acc tgg aaa gtg tgt gtc	432
Cys Asn Pro Leu Arg Tyr Pro Asn Ile Met Thr Trp Lys Val Cys Val	
130 135 140	
cag ctg gca aca gga tca tgg acc agt ggc att ctg gtg tct gtg gta	480
Gln Leu Ala Thr Gly Ser Trp Thr Ser Gly Ile Leu Val Ser Val Val	
145 150 155 160	
gac acc acc ttc ata ctg agg cta ccc tac cga ggc agt aac agc att	528
Asp Thr Thr Phe Ile Leu Arg Leu Pro Tyr Arg Gly Ser Asn Ser Ile	
165 170 175	
gct cat ttc ttt tgt gag gcc cct gca cta ttg atc tta gca tcc aca	576
Ala His Phe Phe Cys Glu Ala Pro Ala Leu Leu Ile Leu Ala Ser Thr	
180 185 190	
gac acc cat gca tca gag atg gcc att ttt ctt atg ggg gtt gtg att	624
Asp Thr His Ala Ser Glu Met Ala Ile Phe Leu Met Gly Val Val Ile	
195 200 205	
ctc ctc ata cct gtt ttt ctg att ctg gta tcc tat ggc cgt atc ata	672
Leu Leu Ile Pro Val Phe Leu Ile Leu Val Ser Tyr Gly Arg Ile Ile	

210	215	220	
gta act gtg gtc aag atg aag tca act gtg ggg agt ctc aag gca ttt			720
Val Thr Val Val Lys Met Lys Ser Thr Val Gly Ser Leu Lys Ala Phe			
225	230	235	240
tct acc tgt ggc tcc cac ctc atg gtg gtc ata ctt ttt tat gga tca			768
Ser Thr Cys Gly Ser His Leu Met Val Val Ile Leu Phe Tyr Gly Ser			
	245	250	255
gca att atc act tac atg aca ccc aag tct tcc aaa cag cag gaa aaa			816
Ala Ile Ile Thr Tyr Met Thr Pro Lys Ser Ser Lys Gln Gln Glu Lys			
	260	265	270
tcg gtg tct gtt ttc tat gca ata gtg act ccc atg ctt aat ccc ctc			864
Ser Val Ser Val Phe Tyr Ala Ile Val Thr Pro Met Leu Asn Pro Leu			
	275	280	285
atc tat agc ctg aga aac aag gat gtg aag gca gct ctg agg aaa gta			912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Val			
	290	295	300
gcc aca agg aat ttc cca tga			933
Ala Thr Arg Asn Phe Pro			
305	310		

<210> 120  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 120

Gln Thr Met Arg Gln Ile Asn Gln Thr Gln Val Thr Glu Phe Leu Leu			
1	5	10	15
Leu Gly Leu Ser Asp Gly Pro His Thr Glu Gln Leu Leu Phe Ile Val			
	20	25	30
Leu Leu Gly Val Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Leu Ile			
	35	40	45
Ser Leu Val His Val Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe			
	50	55	60
Leu Cys Asn Leu Ser Leu Ala Asp Leu Cys Phe Ser Thr Asn Ile Val			
65	70	75	80
Pro Gln Ala Leu Val His Leu Leu Ser Arg Lys Lys Val Ile Ala Phe			
	85	90	95
Thr Leu Cys Ala Ala Arg Leu Leu Phe Phe Leu Ile Phe Gly Cys Thr			
	100	105	110



Gln Cys Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Arg Tyr Pro Asn Ile Met Thr Trp Lys Val Cys Val  
 130 135 140

Gln Leu Ala Thr Gly Ser Trp Thr Ser Gly Ile Leu Val Ser Val Val  
 145 150 155 160

Asp Thr Thr Phe Ile Leu Arg Leu Pro Tyr Arg Gly Ser Asn Ser Ile  
 165 170 175

Ala His Phe Phe Cys Glu Ala Pro Ala Leu Leu Ile Leu Ala Ser Thr  
 180 185 190

Asp Thr His Ala Ser Glu Met Ala Ile Phe Leu Met Gly Val Val Ile  
 195 200 205

Leu Leu Ile Pro Val Phe Leu Ile Leu Val Ser Tyr Gly Arg Ile Ile  
 210 215 220

Val Thr Val Val Lys Met Lys Ser Thr Val Gly Ser Leu Lys Ala Phe  
 225 230 235 240

Ser Thr Cys Gly Ser His Leu Met Val Val Ile Leu Phe Tyr Gly Ser  
 245 250 255

Ala Ile Ile Thr Tyr Met Thr Pro Lys Ser Ser Lys Gln Gln Glu Lys  
 260 265 270

Ser Val Ser Val Phe Tyr Ala Ile Val Thr Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Val  
 290 295 300

Ala Thr Arg Asn Phe Pro  
 305 310

<210> 121  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)

&lt;223&gt;

&lt;400&gt; 121

atg gag ctc tgg aac ttc acc ttg gga agt ggc ttc att ttg gtg ggg	48
Met Glu Leu Trp Asn Phe Thr Leu Gly Ser Gly Phe Ile Leu Val Gly	
1 5 10 15	
att ctg aat gac agt ggg tct cct gaa ctg ctc tgt gct aca att aca	96
Ile Leu Asn Asp Ser Gly Ser Pro Glu Leu Leu Cys Ala Thr Ile Thr	
20 25 30	
atc cta tac ttg ttg gcc ctg atc agc aat ggc cta ctg ctc ctg gct	144
Ile Leu Tyr Leu Leu Ala Leu Ile Ser Asn Gly Leu Leu Leu Leu Ala	
35 40 45	
atc acc atg gaa gcc cgg ctg cac atg ccc atg tac ctc ctg ctt ggg	192
Ile Thr Met Glu Ala Arg Leu His Met Pro Met Tyr Leu Leu Leu Gly	
50 55 60	
cag ctc tct ctc atg gac ctg ctg ttc aca tct gtt gtc act ccc aag	240
Gln Leu Ser Leu Met Asp Leu Leu Phe Thr Ser Val Val Thr Pro Lys	
65 70 75 80	
gcc ctt gcg gac ttt ctg cgc aga gaa aac acc atc tcc ttt gga ggc	288
Ala Leu Ala Asp Phe Leu Arg Arg Glu Asn Thr Ile Ser Phe Gly Gly	
85 90 95	
tgt gcc ctt cag atg ttc ctg gca ctg aca atg ggt ggt gct gag gac	336
Cys Ala Leu Gln Met Phe Leu Ala Leu Thr Met Gly Gly Ala Glu Asp	
100 105 110	
ctc cta ctg gcc ttc atg gcc tat gac agg tat gtg gcc att tgt cat	384
Leu Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His	
115 120 125	
cct ctg aca tac atg acc ctg atg agc tca aga gcc tgc tgg ctc atg	432
Pro Leu Thr Tyr Met Thr Leu Met Ser Ser Arg Ala Cys Trp Leu Met	
130 135 140	
gtg gcc acg tcc tgg atc ctg gca tcc cta agt gcc cta ata tat acc	480
Val Ala Thr Ser Trp Ile Leu Ala Ser Leu Ser Ala Leu Ile Tyr Thr	
145 150 155 160	
gtg tat acc atg cac tat ccc ttc tgc agg gcc cag gag atc agg cat	528
Val Tyr Thr Met His Tyr Pro Phe Cys Arg Ala Gln Glu Ile Arg His	
165 170 175	
ctt ctc tgt gag atc cca cac ttg ctg aag gtg gcc tgt gct gat acc	576
Leu Leu Cys Glu Ile Pro His Leu Leu Lys Val Ala Cys Ala Asp Thr	
180 185 190	
tcc aga tat gag ctc atg gta tat gtg atg ggt gtg acc ttc ctg att	624
Ser Arg Tyr Glu Leu Met Val Tyr Val Met Gly Val Thr Phe Leu Ile	
195 200 205	
ccc tct ctt gct gct ata ctg gcc tcc tat aca caa att cta ctc act	672
Pro Ser Leu Ala Ala Ile Leu Ala Ser Tyr Thr Gln Ile Leu Leu Thr	
210 215 220	
gtg ctc cat atg cca tca aat gag ggg agg aag aaa gcc ctt gtc acc	720

Val Leu His Met Pro Ser Asn Glu Gly Arg Lys Lys Ala Leu Val Thr  
 225 230 235 240  
 tgc tct tcc cac ctg act gtg gtt ggg atg ttc tat gga gct gcc aca 768  
 Cys Ser Ser His Leu Thr Val Val Gly Met Phe Tyr Gly Ala Ala Thr  
 245 250 255  
 ttc atg tat gtc ttg ccc agt tcc ttc cac agc acc aga caa gac aac 816  
 Phe Met Tyr Val Leu Pro Ser Ser Phe His Ser Thr Arg Gln Asp Asn  
 260 265 270  
 atc atc tct gtt ttc tac aca att gtc act cca gcc ctg aat cca ctc 864  
 Ile Ile Ser Val Phe Tyr Thr Ile Val Thr Pro Ala Leu Asn Pro Leu  
 275 280 285  
 atc tac agc ctg agg aat aag gag gtc atg cgg gcc ttg agg agg gtc 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Met Arg Ala Leu Arg Arg Val  
 290 295 300  
 ctg gga aaa tac atg ctg cca gca cac tcc acg ctc tag 951  
 Leu Gly Lys Tyr Met Leu Pro Ala His Ser Thr Leu  
 305 310 315  
  
 <210> 122  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens  
  
 <400> 122  
  
 Met Glu Leu Trp Asn Phe Thr Leu Gly Ser Gly Phe Ile Leu Val Gly  
 1 5 10 15  
  
 Ile Leu Asn Asp Ser Gly Ser Pro Glu Leu Leu Cys Ala Thr Ile Thr  
 20 25 30  
  
 Ile Leu Tyr Leu Leu Ala Leu Ile Ser Asn Gly Leu Leu Leu Ala  
 35 40 45  
  
 Ile Thr Met Glu Ala Arg Leu His Met Pro Met Tyr Leu Leu Leu Gly  
 50 55 60  
  
 Gln Leu Ser Leu Met Asp Leu Leu Phe Thr Ser Val Val Thr Pro Lys  
 65 70 75 80  
  
 Ala Leu Ala Asp Phe Leu Arg Arg Glu Asn Thr Ile Ser Phe Gly Gly  
 85 90 95  
  
 Cys Ala Leu Gln Met Phe Leu Ala Leu Thr Met Gly Gly Ala Glu Asp  
 100 105 110  
  
 Leu Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Thr Tyr Met Thr Leu Met Ser Ser Arg Ala Cys Trp Leu Met  
 130 135 140

Val Ala Thr Ser Trp Ile Leu Ala Ser Leu Ser Ala Leu Ile Tyr Thr  
 145 150 155 160

Val Tyr Thr Met His Tyr Pro Phe Cys Arg Ala Gln Glu Ile Arg His  
 165 170 175

Leu Leu Cys Glu Ile Pro His Leu Leu Lys Val Ala Cys Ala Asp Thr  
 180 185 190

Ser Arg Tyr Glu Leu Met Val Tyr Val Met Gly Val Thr Phe Leu Ile  
 195 200 205

Pro Ser Leu Ala Ala Ile Leu Ala Ser Tyr Thr Gln Ile Leu Leu Thr  
 210 215 220

Val Leu His Met Pro Ser Asn Glu Gly Arg Lys Lys Ala Leu Val Thr  
 225 230 235 240

Cys Ser Ser His Leu Thr Val Val Gly Met Phe Tyr Gly Ala Ala Thr  
 245 250 255

Phe Met Tyr Val Leu Pro Ser Ser Phe His Ser Thr Arg Gln Asp Asn  
 260 265 270

Ile Ile Ser Val Phe Tyr Thr Ile Val Thr Pro Ala Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Met Arg Ala Leu Arg Arg Val  
 290 295 300

Leu Gly Lys Tyr Met Leu Pro Ala His Ser Thr Leu  
 305 310 315

<210> 123  
 <211> 897  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (894)  
 <223>

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<400> 123
atg aga aat cac aca atg gtg act gaa ttc atc ctt ctg gga atc cct      48
Met Arg Asn His Thr Met Val Thr Glu Phe Ile Leu Leu Gly Ile Pro
1          5          10          15

gag aca gag ggc cta gag aca gcc ctt tta ttc ctg ttc tcc tca ttt      96
Glu Thr Glu Gly Leu Glu Thr Ala Leu Phe Leu Phe Ser Ser Phe
          20          25          30

tat tta tgc acc ctc ttg gga aac gtg ctt atc ctt aca gct atc atc      144
Tyr Leu Cys Thr Leu Leu Gly Asn Val Leu Ile Leu Thr Ala Ile Ile
          35          40          45

tcc tcc act cga ctt cac act cct atg tat ttt ttc ttg gga aac ctc      192
Ser Ser Thr Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu
          50          55          60

tcc atc ttt gac ctg ggt ttc tct tca acg act gtt ccc aag atg ttg      240
Ser Ile Phe Asp Leu Gly Phe Ser Ser Thr Thr Val Pro Lys Met Leu
          65          70          75          80

ttc tac ctt tcg ggg aac agc cat gct atc tcg tat gca ggc tgc gtg      288
Phe Tyr Leu Ser Gly Asn Ser His Ala Ile Ser Tyr Ala Gly Cys Val
          85          90          95

tcc cag ctt ttc ttc tac cat ttc cta ggc tgt act gag tgt ttc ctc      336
Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu
          100          105          110

tac aca gtg atg gcc tgt gac cgc ttt gtt gcc ata tgt ttt cct ttg      384
Tyr Thr Val Met Ala Cys Asp Arg Phe Val Ala Ile Cys Phe Pro Leu
          115          120          125

aga tac acg gtc atc atg aac cac agg gtg tgc ttt atg ttg gcc acg      432
Arg Tyr Thr Val Ile Met Asn His Arg Val Cys Phe Met Leu Ala Thr
          130          135          140

ggg acc tgg atg att ggc tgt gtc cat gcc atg atc cta act ccc ctc      480
Gly Thr Trp Met Ile Gly Cys Val His Ala Met Ile Leu Thr Pro Leu
          145          150          155          160

acc ttc cag tta cct tac tgt ggc cct aac aag gtg ggc tat tac ttc      528
Thr Phe Gln Leu Pro Tyr Cys Gly Pro Asn Lys Val Gly Tyr Tyr Phe
          165          170          175

tgt gat att cct gca gtg tta cct cta gcc tgt aag gac aca tcc tta      576
Cys Asp Ile Pro Ala Val Leu Pro Leu Ala Cys Lys Asp Thr Ser Leu
          180          185          190

gcc cag agg gta ggt ttt aca aat gtt ggt ctt ttg tct ctc att tgc      624
Ala Gln Arg Val Gly Phe Thr Asn Val Gly Leu Leu Ser Leu Ile Cys
          195          200          205

ttt ttt ctc atc ctt gtt tcc tat act tgc att ggg att tcc ata tca      672
Phe Phe Leu Ile Leu Val Ser Tyr Thr Cys Ile Gly Ile Ser Ile Ser
          210          215          220

aaa atc cgc tca gca gag ggc agg cag cgg gcc ttc tcc acc tgc agc      720
Lys Ile Arg Ser Ala Glu Gly Arg Gln Arg Ala Phe Ser Thr Cys Ser
          225          230          235          240

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gct cac ctc act gca atc ctt tgt gct tat ggg cca gtc atc gtt atc 768  
 Ala His Leu Thr Ala Ile Leu Cys Ala Tyr Gly Pro Val Ile Val Ile  
                   245                  250                  255

tat cta caa ccc aat ccc agt gcc ttg ctt ggt tcc ata att cag ata 816  
 Tyr Leu Gln Pro Asn Pro Ser Ala Leu Leu Gly Ser Ile Ile Gln Ile  
                   260                  265                  270

ttg aat aat ctg gta acc cca atg ttg aat cca cta atc tat agc ctt 864  
 Leu Asn Asn Leu Val Thr Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
                   275                  280                  285

agg aat aag gat gta aaa tca gat cag ccc tga 897  
 Arg Asn Lys Asp Val Lys Ser Asp Gln Pro  
                   290                  295

<210> 124

<211> 298

<212> PRT

<213> Homo Sapiens

<400> 124

Met Arg Asn His Thr Met Val Thr Glu Phe Ile Leu Leu Gly Ile Pro  
 1                  5                  10                  15

Glu Thr Glu Gly Leu Glu Thr Ala Leu Leu Phe Leu Phe Ser Ser Phe  
                   20                  25                  30

Tyr Leu Cys Thr Leu Leu Gly Asn Val Leu Ile Leu Thr Ala Ile Ile  
                   35                  40                  45

Ser Ser Thr Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu  
                   50                  55                  60

Ser Ile Phe Asp Leu Gly Phe Ser Ser Thr Thr Val Pro Lys Met Leu  
 65                  70                  75                  80

Phe Tyr Leu Ser Gly Asn Ser His Ala Ile Ser Tyr Ala Gly Cys Val  
                   85                  90                  95

Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu  
                   100                  105                  110

Tyr Thr Val Met Ala Cys Asp Arg Phe Val Ala Ile Cys Phe Pro Leu  
                   115                  120                  125

Arg Tyr Thr Val Ile Met Asn His Arg Val Cys Phe Met Leu Ala Thr  
                   130                  135                  140

Gly Thr Trp Met Ile Gly Cys Val His Ala Met Ile Leu Thr Pro Leu

145					150						155					160
Thr	Phe	Gln	Leu	Pro 165	Tyr	Cys	Gly	Pro	Asn 170	Lys	Val	Gly	Tyr	Tyr 175	Phe	
Cys	Asp	Ile	Pro 180	Ala	Val	Leu	Pro	Leu 185	Ala	Cys	Lys	Asp	Thr 190	Ser	Leu	
Ala	Gln	Arg 195	Val	Gly	Phe	Thr	Asn 200	Val	Gly	Leu	Leu	Ser 205	Leu	Ile	Cys	
Phe	Phe 210	Leu	Ile	Leu	Val	Ser 215	Tyr	Thr	Cys	Ile	Gly 220	Ile	Ser	Ile	Ser	
Lys 225	Ile	Arg	Ser	Ala	Glu 230	Gly	Arg	Gln	Arg	Ala 235	Phe	Ser	Thr	Cys	Ser 240	
Ala	His	Leu	Thr	Ala 245	Ile	Leu	Cys	Ala	Tyr 250	Gly	Pro	Val	Ile	Val 255	Ile	
Tyr	Leu	Gln	Pro 260	Asn	Pro	Ser	Ala	Leu 265	Leu	Gly	Ser	Ile	Ile 270	Gln	Ile	
Leu	Asn	Asn 275	Leu	Val	Thr	Pro	Met	Leu 280	Asn	Pro	Leu	Ile 285	Tyr	Ser	Leu	
Arg	Asn	Lys	Asp	Val	Lys	Ser	Asp	Gln	Pro							
290							295									

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<210> 125
<211> 969
<212> DNA
<213> Homo Sapiens
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<220>
<221> CDS
<222> (1) .. (966)
<223>
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<400>	125																	
atg	aat	tcc	ctg	aag	gac	ggg	aat	cac	acc	gct	ctg	acg	ggg	ttc	atc			48
Met	Asn	Ser	Leu	Lys	Asp	Gly	Asn	His	Thr	Ala	Leu	Thr	Gly	Phe	Ile			
1				5					10					15				
<hr/>																		
cta	ttg	ggc	tta	aca	gat	gat	cca	atc	ctt	cga	gtc	atc	ctc	ttc	atg			96
Leu	Leu	Gly	Leu	Thr	Asp	Asp	Pro	Ile	Leu	Arg	Val	Ile	Leu	Phe	Met			
			20					25					30					
<hr/>																		
atc	atc	cta	tct	ggg	aat	ctc	agc	ata	att	att	ctt	atc	aga	att	tct			144
Ile	Ile	Leu	Ser	Gly	Asn	Leu	Ser	Ile	Ile	Ile	Leu	Ile	Arg	Ile	Ser			

35	40	45	
tct cag ctc cat cat cct atg tat ttc ttt ctg agc cac ttg gct ttt Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe 50 55 60			192
gct gac atg gcc tat tca tct tct gtc aca ccc aac atg ctt gta aac Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn 65 70 75 80			240
ttc ctg gtg gag aga aat aca gtc tcc tac ctt gga tgt gcc atc cag Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln 85 90 95			288
ctt ggt tca gcg gct ttc ttt gca aca gtc gaa tgc gtc ctt ctg gct Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala 100 105 110			336
gcc atg gcc tat gac cgc ttt gtg gca att tgc agt cca ctg ctt tat Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr 115 120 125			384
tca acc aaa atg tcc aca caa gtc agt gtc cag cta ctc tta gta gtt Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Val Val 130 135 140			432
tac ata gct ggt ttt ctc att gct gtc tcc tat act act tcc ttc tat Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr 145 150 155 160			480
ttt tta ctc ttc tgt gga cca aat caa gtc aat cat ttt ttc tgt gat Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp 165 170 175			528
ttc gct ccc tta ctt gaa ctc tcc tgt tct gat atc agt gtc tcc aca Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr 180 185 190			576
gtt gtt ctc tca ttt tct tct gga tcc atc att gtg gtc act gtg tgt Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys 195 200 205			624
gtc ata gcc gtc tgc tac atc tat atc ctc atc acc atc ctg aag atg Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met 210 215 220			672
cgc tcc act gag ggg cac cac aag gcc ttc tcc acc tgc act tcc cac Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His 225 230 235 240			720
ctc act gtg gtt acc ctg ttc tat ggg acc att acc ttc att tat gtg Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val 245 250 255			768
atg ccc aat ttt agc tac tca act gac cag aac aag gtg gtg tct gtg Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val 260 265 270			816
ttg tac aca gtg gtg att ccc atg ttg aac ccc ctg atc tac agc ctc Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu 275 280 285			864



agg aac aag gag att aag ggg gct ctg aag aga gag ctt gtt aga aaa 912  
 Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

ata ctt tct cat gat gct tgt tat ttt agt aga act tca aat aat gat 960  
 Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

att aca tag 969  
 Ile Thr

<210> 126  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 126

Met Asn Ser Leu Lys Asp Gly Asn His Thr Ala Leu Thr Gly Phe Ile  
 1 5 10 15

Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met  
 20 25 30

Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser  
 35 40 45

Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe  
 50 55 60

Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn  
 65 70 75 80

Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln  
 85 90 95

Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala  
 100 105 110

Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr  
 115 120 125

Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val  
 130 135 140

Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr  
 145 150 155 160

Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp  
 165 170 175

Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr  
 180 185 190

Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys  
 195 200 205

Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met  
 210 215 220

Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His  
 225 230 235 240

Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val  
 245 250 255

Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
 260 265 270

Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285

Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

Ile Thr

<210> 127  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

<400> 127  
 atg gag aat aat aca gag gtg agt gaa ttc atc ctg ctt ggt cta acc 48  
 Met Glu Asn Asn Thr Glu Val Ser Glu Phe Ile Leu Leu Gly Leu Thr  
 1 5 10 15  
 aat gcc cca gaa cta cag gtt ccc ctc ttt atc atg ttt acc ctc atc 96

Asn	Ala	Pro	Glu	Leu	Gln	Val	Pro	Leu	Phe	Ile	Met	Phe	Thr	Leu	Ile		
			20					25					30				
tac	ctc	atc	act	ctg	act	ggg	aac	ctg	ggg	atg	atc	ata	tta	atc	ctg		144
Tyr	Leu	Ile	Thr	Leu	Thr	Gly	Asn	Leu	Gly	Met	Ile	Ile	Leu	Ile	Leu		
		35					40				45						
ctg	gac	tct	cat	ctc	cac	act	ccc	atg	tac	ttt	ttt	ctc	agt	aac	ctg		192
Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Asn	Leu		
	50					55					60						
tct	ctt	gca	ggc	att	ggg	tac	tcc	tca	gct	gtc	act	cca	aag	gtt	tta		240
Ser	Leu	Ala	Gly	Ile	Gly	Tyr	Ser	Ser	Ala	Val	Thr	Pro	Lys	Val	Leu		
65					70				75						80		
act	ggg	ttg	ctt	ata	gaa	gac	aaa	gcc	atc	tcc	tac	agt	gcc	tgt	gct		288
Thr	Gly	Leu	Leu	Ile	Glu	Asp	Lys	Ala	Ile	Ser	Tyr	Ser	Ala	Cys	Ala		
			85					90						95			
gct	cag	atg	ttc	ttt	tgt	gca	gtc	ttt	gcc	act	gtg	gaa	aat	tac	ctc		336
Ala	Gln	Met	Phe	Phe	Cys	Ala	Val	Phe	Ala	Thr	Val	Glu	Asn	Tyr	Leu		
			100					105					110				
ttg	tcc	tca	atg	gcc	tat	gac	cgc	tac	gca	gca	gtg	tgt	aac	ccc	cta		384
Leu	Ser	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Val	Cys	Asn	Pro	Leu		
			115				120					125					
cat	tat	acc	acc	acc	atg	aca	aca	cgt	gtg	tgt	gct	tgt	ctg	gct	ata		432
His	Tyr	Thr	Thr	Thr	Met	Thr	Thr	Arg	Val	Cys	Ala	Cys	Leu	Ala	Ile		
			130			135					140						
ggc	tgt	tat	gtc	att	ggg	ttt	ctg	aat	gct	tct	atc	caa	att	gga	gat		480
Gly	Cys	Tyr	Val	Ile	Gly	Phe	Leu	Asn	Ala	Ser	Ile	Gln	Ile	Gly	Asp		
145					150				155						160		
aca	ttt	cgc	ctc	tct	ttc	tgc	atg	tcc	aat	gtg	att	cat	cac	ttt	ttc		528
Thr	Phe	Arg	Leu	Ser	Phe	Cys	Met	Ser	Asn	Val	Ile	His	His	Phe	Phe		
			165					170						175			
tgt	gac	aaa	cca	gca	gtc	att	act	ctg	acc	tgc	tct	gag	aaa	cac	att		576
Cys	Asp	Lys	Pro	Ala	Val	Ile	Thr	Leu	Thr	Cys	Ser	Glu	Lys	His	Ile		
			180					185					190				
agt	gag	ttg	att	ctt	gtt	ctt	ata	tca	agt	ttt	aat	gtc	ttt	ttt	gca		624
Ser	Glu	Leu	Ile	Leu	Val	Leu	Ile	Ser	Ser	Phe	Asn	Val	Phe	Phe	Ala		
		195					200					205					
ctt	ctt	gtt	acc	ttg	att	tcc	tat	ctg	ttc	ata	ttg	atc	acc	att	ctt		672
Leu	Leu	Val	Thr	Leu	Ile	Ser	Tyr	Leu	Phe	Ile	Leu	Ile	Thr	Ile	Leu		
		210					215					220					
aag	agg	cac	aca	ggg	aag	gga	tac	cag	aag	cct	tta	tct	acc	tgt	ggg		720
Lys	Arg	His	Thr	Gly	Lys	Gly	Tyr	Gln	Lys	Pro	Leu	Ser	Thr	Cys	Gly		
225					230				235						240		
tct	cac	ctc	att	gcc	att	ttc	tta	ttt	tat	ata	act	gtc	atc	atc	atg		768
Ser	His	Leu	Ile	Ala	Ile	Phe	Leu	Phe	Tyr	Ile	Thr	Val	Ile	Ile	Met		
				245				250						255			
tac	ata	cga	cca	agt	tcc	agt	cat	tcc	atg	gac	aca	gac	aaa	att	gca		816
Tyr	Ile	Arg	Pro	Ser	Ser	Ser	His	Ser	Met	Asp	Thr	Asp	Lys	Ile	Ala		

260	265	270	
tct gtg ttc tac act atg atc atc ccc atg ctc agt cct ata gtc tat			864
Ser Val Phe Tyr Thr Met Ile Ile Pro Met Leu Ser Pro Ile Val Tyr			
275	280	285	
acc ctg agg aac aaa gac gtg aag aat gca ttc atg aag gtt gtt gag			912
Thr Leu Arg Asn Lys Asp Val Lys Asn Ala Phe Met Lys Val Val Glu			
290	295	300	
aag gca aaa tat tct cta gat tca gtc ttt taa			945
Lys Ala Lys Tyr Ser Leu Asp Ser Val Phe			
305	310		

<210> 128  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 128

Met Glu Asn Asn Thr Glu Val Ser Glu Phe Ile Leu Leu Gly Leu Thr
1 5 10 15

Asn Ala Pro Glu Leu Gln Val Pro Leu Phe Ile Met Phe Thr Leu Ile
20 25 30

Tyr Leu Ile Thr Leu Thr Gly Asn Leu Gly Met Ile Ile Leu Ile Leu
35 40 45

Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu
50 55 60

Ser Leu Ala Gly Ile Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Leu
65 70 75 80

Thr Gly Leu Leu Ile Glu Asp Lys Ala Ile Ser Tyr Ser Ala Cys Ala
85 90 95

Ala Gln Met Phe Phe Cys Ala Val Phe Ala Thr Val Glu Asn Tyr Leu
100 105 110

Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Asn Pro Leu
115 120 125

His Tyr Thr Thr Thr Met Thr Thr Arg Val Cys Ala Cys Leu Ala Ile
130 135 140

Gly Cys Tyr Val Ile Gly Phe Leu Asn Ala Ser Ile Gln Ile Gly Asp
145 150 155 160



tac aca tta aca gca aca gga aac atc acc atc atc tcc ctg ata tgg	144
Tyr Thr Leu Thr Ala Thr Gly Asn Ile Thr Ile Ile Ser Leu Ile Trp	
35 40 45	
att gat cat cgc ctg caa act cca atg tac ttc ttc ctc agt aat ttg	192
Ile Asp His Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu	
50 55 60	
tcc ttt ctg gat atc tta tac acc act gtc att acc cca aag ttg ttg	240
Ser Phe Leu Asp Ile Leu Tyr Thr Thr Val Ile Thr Pro Lys Leu Leu	
65 70 75 80	
gcc tgc ctc cta gga gaa gag aaa acc ata tct ttt gct ggt tgc atg	288
Ala Cys Leu Leu Gly Glu Glu Lys Thr Ile Ser Phe Ala Gly Cys Met	
85 90 95	
atc caa aca tat ttc tac ttc ttt ctg ggg acg gtg gag ttt atc ctc	336
Ile Gln Thr Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Ile Leu	
100 105 110	
ttg gcg gtg atg tcc ttt gac cgc tac atg gct atc tgc gac cca ctg	384
Leu Ala Val Met Ser Phe Asp Arg Tyr Met Ala Ile Cys Asp Pro Leu	
115 120 125	
cac tac acg gtc atc atg aac agc agg gcc tgc ctt ctg ctg gtt ctg	432
His Tyr Thr Val Ile Met Asn Ser Arg Ala Cys Leu Leu Leu Val Leu	
130 135 140	
gga tgc tgg gtg gga gcc ttc ctg tct gtg ttg ttt cca acc att gta	480
Gly Cys Trp Val Gly Ala Phe Leu Ser Val Leu Phe Pro Thr Ile Val	
145 150 155 160	
gtg aca agg cta cct tac tgt agg aaa gaa att aat cat ttc ttc tgt	528
Val Thr Arg Leu Pro Tyr Cys Arg Lys Glu Ile Asn His Phe Phe Cys	
165 170 175	
gac att gcc cct ctt ctt cag gtg gcc tgt ata aat act cac ctc att	576
Asp Ile Ala Pro Leu Leu Gln Val Ala Cys Ile Asn Thr His Leu Ile	
180 185 190	
gag aag ata aac ttt ctc ctc tct gcc ctt gtc atc ctg agc tcc ctg	624
Glu Lys Ile Asn Phe Leu Leu Ser Ala Leu Val Ile Leu Ser Ser Leu	
195 200 205	
gca ttc act act ggg tcc tac gtg tac ata att tct acc atc ctg cgt	672
Ala Phe Thr Thr Gly Ser Tyr Val Tyr Ile Ile Ser Thr Ile Leu Arg	
210 215 220	
atc ccc tcc acc cag ggc cgt cag aaa gct ttt tct acc tgt gct tct	720
Ile Pro Ser Thr Gln Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser	
225 230 235 240	
cac atc act gtt gtc tcc att gcc cac ggg agc aac atc ttt gtg tat	768
His Ile Thr Val Val Ser Ile Ala His Gly Ser Asn Ile Phe Val Tyr	
245 250 255	
gtg aga ccc aat cag aac tcc tca ctg gat tat gac aag gtg gcc gct	816
Val Arg Pro Asn Gln Asn Ser Ser Leu Asp Tyr Asp Lys Val Ala Ala	
260 265 270	
gtc ctc atc aca gtg gtg acc cct ctc ctg aac cct ttt atc tac agc	864

Val Leu Ile Thr Val Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr Ser  
 275 280 285

ttg agg aat gag aag gta cag gaa gtg ttg aga gag aca gtg aac aga 912  
 Leu Arg Asn Glu Lys Val Gln Glu Val Leu Arg Glu Thr Val Asn Arg  
 290 295 300

atc atg acc ttg ata caa agg aaa act tga 942  
 Ile Met Thr Leu Ile Gln Arg Lys Thr  
 305 310

<210> 130  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 130

Met Gly Asn Trp Ser Thr Val Thr Glu Ile Thr Leu Ile Ala Phe Pro  
 1 5 10 15

Ala Leu Leu Glu Ile Arg Ile Ser Leu Phe Val Val Leu Val Val Thr  
 20 25 30

Tyr Thr Leu Thr Ala Thr Gly Asn Ile Thr Ile Ile Ser Leu Ile Trp  
 35 40 45

Ile Asp His Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
 50 55 60

Ser Phe Leu Asp Ile Leu Tyr Thr Thr Val Ile Thr Pro Lys Leu Leu  
 65 70 75 80

Ala Cys Leu Leu Gly Glu Glu Lys Thr Ile Ser Phe Ala Gly Cys Met  
 85 90 95

Ile Gln Thr Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Ile Leu  
 100 105 110

Leu Ala Val Met Ser Phe Asp Arg Tyr Met Ala Ile Cys Asp Pro Leu  
 115 120 125

His Tyr Thr Val Ile Met Asn Ser Arg Ala Cys Leu Leu Leu Val Leu  
 130 135 140

Gly Cys Trp Val Gly Ala Phe Leu Ser Val Leu Phe Pro Thr Ile Val  
 145 150 155 160

Val Thr Arg Leu Pro Tyr Cys Arg Lys Glu Ile Asn His Phe Phe Cys  
 165 170 175

Asp Ile Ala Pro Leu Leu Gln Val Ala Cys Ile Asn Thr His Leu Ile  
180 185 190

Glu Lys Ile Asn Phe Leu Leu Ser Ala Leu Val Ile Leu Ser Ser Leu  
195 200 205

Ala Phe Thr Thr Gly Ser Tyr Val Tyr Ile Ile Ser Thr Ile Leu Arg  
210 215 220

Ile Pro Ser Thr Gln Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser  
225 230 235 240

His Ile Thr Val Val Ser Ile Ala His Gly Ser Asn Ile Phe Val Tyr  
245 250 255

Val Arg Pro Asn Gln Asn Ser Ser Leu Asp Tyr Asp Lys Val Ala Ala  
260 265 270

Val Leu Ile Thr Val Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr Ser  
275 280 285

Leu Arg Asn Glu Lys Val Gln Glu Val Leu Arg Glu Thr Val Asn Arg  
290 295 300

Ile Met Thr Leu Ile Gln Arg Lys Thr  
305 310

<210> 131  
<211> 945  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(945)  
<223>

<400> 131  
atg tgg gaa aac tgg aca att gtc agt gaa ttt gtt ctc gtg agc ttc 48  
Met Trp Glu Asn Trp Thr Ile Val Ser Glu Phe Val Leu Val Ser Phe  
1 5 10 15

tca gcc ctg tcc act gag ctt cag gct cta ctg ttt ctc ctt ttc ttg 96  
Ser Ala Leu Ser Thr Glu Leu Gln Ala Leu Leu Phe Leu Leu Phe Leu  
20 25 30

acc att tac ttg gtt act tta atg ggc aat gtc ctc atc atc ctg gtc 144  
Thr Ile Tyr Leu Val Thr Leu Met Gly Asn Val Leu Ile Ile Leu Val  
35 40 45



act ata gct gac tct gca cta caa agt cct atg tac ttc ttc ctc aga Thr Ile Ala Asp Ser Ala Leu Gln Ser Pro Met Tyr Phe Phe Leu Arg 50 55 60	192
aac ttg tcc ttc ctg gag ata ggt ttc aac ttg gtc att gtg ccc aag Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu Val Ile Val Pro Lys 65 70 75 80	240
atg ctg ggg acc ctg atc att caa gac aca acc atc tcc ttc ctt gga Met Leu Gly Thr Leu Ile Ile Gln Asp Thr Thr Ile Ser Phe Leu Gly 85 90 95	288
tgt gcc act cag atg tat ttc ttc ttc ttt ttt ggg gct gct gag tgc Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Gly Ala Ala Glu Cys 100 105 110	336
tgc ctc ctg gcc acc atg gca tat gac cgc tac gtg gcc atc tgt gac Cys Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asp 115 120 125	384
ccc ttg cac tac cca gtc atc atg ggc cac ata tcc tgt gcc cag ctg Pro Leu His Tyr Pro Val Ile Met Gly His Ile Ser Cys Ala Gln Leu 130 135 140	432
gca gct gcc tct tgg ttc tca ggg ttt tca gtg gcc act gtg caa acc Ala Ala Ala Ser Trp Phe Ser Gly Phe Ser Val Ala Thr Val Gln Thr 145 150 155 160	480
aca tgg att ttc agt ttc cct ttt tgt ggc ccc aac agg gtg aac cac Thr Trp Ile Phe Ser Phe Pro Phe Cys Gly Pro Asn Arg Val Asn His 165 170 175	528
ttc ttc tgt gac agc cct cct gtt att gca ctg gtc tgt gct gac acc Phe Phe Cys Asp Ser Pro Pro Val Ile Ala Leu Val Cys Ala Asp Thr 180 185 190	576
tct gtg ttt gaa ctg gag gct ctg aca gcc act gtc cca ttc att ctc Ser Val Phe Glu Leu Glu Ala Leu Thr Ala Thr Val Pro Phe Ile Leu 195 200 205	624
ttt cct ttc ttg ctg atc ctg gga tcc tat gtc cgc atc ctc tcc act Phe Pro Phe Leu Leu Ile Leu Gly Ser Tyr Val Arg Ile Leu Ser Thr 210 215 220	672
atc ttc agg atg ccg tca gct gag ggg aaa cat cag gca ttc tcc acc Ile Phe Arg Met Pro Ser Ala Glu Gly Lys His Gln Ala Phe Ser Thr 225 230 235 240	720
tgt tcc gcc cac ctc ttg gtt gtc tct ctc ttc tat agc act gcc atc Cys Ser Ala His Leu Leu Val Val Ser Leu Phe Tyr Ser Thr Ala Ile 245 250 255	768
ctc acg tat ttc cga ccc caa tcc agt gcc tct tct gag agc aag aag Leu Thr Tyr Phe Arg Pro Gln Ser Ser Ala Ser Ser Glu Ser Lys Lys 260 265 270	816
ctg ctg tca ctc tct tcc aca gtg gtg act ccc atg ttg aac ccc atc Leu Leu Ser Leu Ser Ser Thr Val Val Thr Pro Met Leu Asn Pro Ile 275 280 285	864

atc tac agc tca agg aat aaa gaa gtg aag gct gca ctg aag cgg ctt 912  
 Ile Tyr Ser Ser Arg Asn Lys Glu Val Lys Ala Ala Leu Lys Arg Leu  
 290 295 300

atc cac agg acc ctg ggc tct cag aaa cta tga 945  
 Ile His Arg Thr Leu Gly Ser Gln Lys Leu  
 305 310

<210> 132  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 132

Met Trp Glu Asn Trp Thr Ile Val Ser Glu Phe Val Leu Val Ser Phe  
 1 5 10 15

Ser Ala Leu Ser Thr Glu Leu Gln Ala Leu Leu Phe Leu Leu Phe Leu  
 20 25 30

Thr Ile Tyr Leu Val Thr Leu Met Gly Asn Val Leu Ile Ile Leu Val  
 35 40 45

Thr Ile Ala Asp Ser Ala Leu Gln Ser Pro Met Tyr Phe Phe Leu Arg  
 50 55 60

Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu Val Ile Val Pro Lys  
 65 70 75 80

Met Leu Gly Thr Leu Ile Ile Gln Asp Thr Thr Ile Ser Phe Leu Gly  
 85 90 95

Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Gly Ala Ala Glu Cys  
 100 105 110

Cys Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asp  
 115 120 125

Pro Leu His Tyr Pro Val Ile Met Gly His Ile Ser Cys Ala Gln Leu  
 130 135 140

Ala Ala Ala Ser Trp Phe Ser Gly Phe Ser Val Ala Thr Val Gln Thr  
 145 150 155 160

Thr Trp Ile Phe Ser Phe Pro Phe Cys Gly Pro Asn Arg Val Asn His  
 165 170 175

Phe Phe Cys Asp Ser Pro Pro Val Ile Ala Leu Val Cys Ala Asp Thr

180                                      185                                      190  
 Ser Val Phe Glu Leu Glu Ala Leu Thr Ala Thr Val Pro Phe Ile Leu  
           195                                      200                                      205  
 Phe Pro Phe Leu Leu Ile Leu Gly Ser Tyr Val Arg Ile Leu Ser Thr  
           210                                      215                                      220  
 Ile Phe Arg Met Pro Ser Ala Glu Gly Lys His Gln Ala Phe Ser Thr  
           225                                      230                                      235                                      240  
 Cys Ser Ala His Leu Leu Val Val Ser Leu Phe Tyr Ser Thr Ala Ile  
    245                                      250                                      255  
 Leu Thr Tyr Phe Arg Pro Gln Ser Ser Ala Ser Ser Glu Ser Lys Lys  
    260                                      265                                      270  
 Leu Leu Ser Leu Ser Ser Thr Val Val Thr Pro Met Leu Asn Pro Ile  
    275                                      280                                      285  
 Ile Tyr Ser Ser Arg Asn Lys Glu Val Lys Ala Ala Leu Lys Arg Leu  
    290                                      295                                      300  
 Ile His Arg Thr Leu Gly Ser Gln Lys Leu  
    305                                      310  
  
 <210> 133  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens  
  
 <220>  
 <221> CDS  
 <222> (1)..(936)  
 <223>  
  
 <400> 133  
 atg gag cgg gtc aat gag act gtg gtg aga gag gtc atc ttc ctc ggc                                      48  
 Met Glu Arg Val Asn Glu Thr Val Val Arg Glu Val Ile Phe Leu Gly  
 1                                      5                                      10                                      15  
 ttc tca tcc ctg gcc agg ctg cag cag ctg ctc ttt gtt atc ttc ctg                                      96  
 Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
    20                                      25                                      30  
 ctc ctc tac ctg ttc act ctg ggc acc aat gca atc atc att tcc acc                                      144  
 Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
    35                                      40                                      45  
 att gtc ctg gac agg gcc ctt cat atc ccc atg tac ttc ttc ctt gcc                                      192  
 Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe Leu Ala

50	55	60	
atc ctc tct tgc tct gag att tgc tac acc ttc atc att gta ccc aag			240
Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys			
65	70	75	80
atg ctg gtt gac ctg ctg tcc cag aag aag acc att tct ttc ctg ggc			288
Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly			
	85	90	95
tgt gcc atc caa atg ttt tcc ttc ctc ttc ctt ggc tgc tct cac tcc			336
Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser			
	100	105	110
ttt ctg ctg gca gtc atg ggt tat gat cgt tac ata gcc atc tgt aac			384
Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn			
	115	120	125
cca ctg cgc tac tca gtg cta atg gga cat ggg gtg tgt atg gga cta			432
Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu			
	130	135	140
gtg gct gct gcc tgt gcc tgt ggc ttc act gtt gca cag atc atc aca			480
Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr			
145	150	155	160
tcc ttg gta ttt cac ctg cct ttt tat tcc tcc aat caa cta cat cac			528
Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu His His			
	165	170	175
ttc ttc tgt gac att gct cct gtc ctc aag ctg gca tct cac cat aac			576
Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn			
	180	185	190
cac ttt agt cag att gtc atc ttc atg ctc tgt aca ttg gtc ctg gct			624
His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala			
	195	200	205
atc ccc tta ttg ttg atc ttg gtg tcc tat gtt cac atc ctc tct gcc			672
Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala			
	210	215	220
ata ctt cag ttt cct tcc aca ctg ggt agg tgc aaa gct ttt tct acc			720
Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe Ser Thr			
225	230	235	240
tgt gta tct cac ctc att att gtc act gtc cac tat ggc tgt gcc tcc			768
Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser			
	245	250	255
ttt atc tac tta agg cct cag tcc aac tac tcc tca agc cag gat gct			816
Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala			
	260	265	270
cta ata tca gta tcc tac act att ata act cca ttg ttc aac cca atg			864
Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met			
	275	280	285
att tat agc ttg aga aat aaa gag ttc aaa tca gct ctt tgt aaa att			912
Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile			
	290	295	300

gtg aga aga aca att tcc ctg ttg taa  
 Val Arg Arg Thr Ile Ser Leu Leu  
 305 310

939

<210> 134  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 134

Met Glu Arg Val Asn Glu Thr Val Val Arg Glu Val Ile Phe Leu Gly  
 1 5 10 15

Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
 20 25 30

Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
 35 40 45

Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys  
 65 70 75 80

Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
 85 90 95

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser  
 100 105 110

Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu  
 130 135 140

Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr  
 145 150 155 160

Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu His His  
 165 170 175

Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn  
 180 185 190

His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala  
 195 200 205

Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala  
 210 215 220

Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser  
 245 250 255

Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala  
 260 265 270

Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile  
 290 295 300

Val Arg Arg Thr Ile Ser Leu Leu  
 305 310

<210> 135  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

<400> 135  
 atg gaa gga ata aat aaa act gca aag atg cag ttt ttc ttt cgt cca 48  
 Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
 1 5 10 15  
 ttc tca cct gac cct gag gtc cag atg ctg att ttt gtg gtc ttc ctg 96  
 Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30  
 atg atg tat ctg acc agc ctc ggt gga aat gct aca att gca gtc att 144  
 Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45  
 gtt cag atc aat cat tcc ctc cac acc ccc atg tac ttt ttc ctg gct 192  
 Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60  
 aat ctg gca gtt cta gaa atc ttc tat aca tct tcc atc acc cca ttg 240

Asn	Leu	Ala	Val	Leu	Glu	Ile	Phe	Tyr	Thr	Ser	Ser	Ile	Thr	Pro	Leu		
65					70					75					80		
gcc	ttg	gca	aac	ctc	ctt	tca	atg	ggc	aaa	act	cct	gtt	tcc	atc	acg		288
Ala	Leu	Ala	Asn	Leu	Leu	Ser	Met	Gly	Lys	Thr	Pro	Val	Ser	Ile	Thr		
			85						90					95			
gga	tgt	ggc	acc	cag	atg	ttt	ttc	ttt	gtc	ttc	ttg	ggg	ggt	gat			336
Gly	Cys	Gly	Thr	Gln	Met	Phe	Phe	Phe	Val	Phe	Leu	Gly	Gly	Ala	Asp		
			100					105					110				
tgt	gtc	ctg	ctg	gta	gtc	atg	gct	tat	gac	cgg	ttt	ata	gcg	atc	tgt		384
Cys	Val	Leu	Leu	Val	Val	Met	Ala	Tyr	Asp	Arg	Phe	Ile	Ala	Ile	Cys		
			115				120						125				
cac	cct	ctg	cga	tac	agg	ctc	atc	atg	agc	tgg	tcc	ttg	tgt	gtg	gag		432
His	Pro	Leu	Arg	Tyr	Arg	Leu	Ile	Met	Ser	Trp	Ser	Leu	Cys	Val	Glu		
			130				135					140					
ctg	ctg	gta	ggc	tcc	ttg	gtg	ctg	ggg	ttc	ctg	ttg	tca	ctg	cca	ctc		480
Leu	Leu	Val	Gly	Ser	Leu	Val	Leu	Gly	Phe	Leu	Leu	Ser	Leu	Pro	Leu		
						150				155					160		
acc	att	tta	atc	ttc	cat	ctc	cca	ttc	tgc	cac	aat	gat	gag	atc	tac		528
Thr	Ile	Leu	Ile	Phe	His	Leu	Pro	Phe	Cys	His	Asn	Asp	Glu	Ile	Tyr		
				165					170						175		
cac	ttc	tac	tgt	gac	atg	cct	gca	gtc	atg	cgc	ctg	gct	tgt	gca	gac		576
His	Phe	Tyr	Cys	Asp	Met	Pro	Ala	Val	Met	Arg	Leu	Ala	Cys	Ala	Asp		
			180						185					190			
aca	cgc	gtt	cac	aag	act	gct	ctg	tat	atc	atc	agc	ttc	atc	gtc	ctt		624
Thr	Arg	Val	His	Lys	Thr	Ala	Leu	Tyr	Ile	Ile	Ser	Phe	Ile	Val	Leu		
			195				200					205					
agc	atc	ccc	ctc	tca	ttg	atc	tcc	atc	tcc	tat	gtc	ttc	atc	gtg	gta		672
Ser	Ile	Pro	Leu	Ser	Leu	Ile	Ser	Ile	Ser	Tyr	Val	Phe	Ile	Val	Val		
			210				215					220					
gcc	att	tta	cgg	atc	cgg	tca	gca	gaa	ggg	cgc	cag	caa	gcc	tac	tct		720
Ala	Ile	Leu	Arg	Ile	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Gln	Ala	Tyr	Ser		
					230					235					240		
acc	tgc	tct	tct	cac	atc	ttg	gtg	gtc	ctc	ctg	cag	tat	ggc	tgc	acc		768
Thr	Cys	Ser	Ser	His	Ile	Leu	Val	Val	Leu	Leu	Gln	Tyr	Gly	Cys	Thr		
				245					250						255		
agc	ttt	ata	tac	ttg	tcc	ccc	agt	tcc	agc	tac	tct	cct	gag	atg	ggc		816
Ser	Phe	Ile	Tyr	Leu	Ser	Pro	Ser	Ser	Ser	Tyr	Ser	Pro	Glu	Met	Gly		
				260				265						270			
cgg	gtg	gta	tct	gtg	gcc	tac	aca	ttt	atc	act	ccc	att	tta	aac	ccc		864
Arg	Val	Val	Ser	Val	Ala	Tyr	Thr	Phe	Ile	Thr	Pro	Ile	Leu	Asn	Pro		
				275				280						285			
ttg	atc	tat	agt	ttg	agg	aac	aag	gaa	ctg	aaa	gat	gcc	cta	agg	aaa		912
Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Leu	Lys	Asp	Ala	Leu	Arg	Lys		
				290			295				300						
gca	ttg	aga	aaa	ttc	tag												930
Ala	Leu	Arg	Lys	Phe													

305

<210> 136  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 136

Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
 1 5 10 15

Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30

Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45

Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu  
 65 70 75 80

Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr  
 85 90 95

Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp  
 100 105 110

Cys Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu  
 130 135 140

Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu  
 145 150 155 160

Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr  
 165 170 175

His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp  
 180 185 190

Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu  
 195 200 205



Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val  
 210 215 220

Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser  
 225 230 235 240

Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr  
 245 250 255

Ser Phe Ile Tyr Leu Ser Pro Ser Ser Tyr Ser Pro Glu Met Gly  
 260 265 270

Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu Leu Lys Asp Ala Leu Arg Lys  
 290 295 300

Ala Leu Arg Lys Phe  
 305

<210> 137  
 <211> 892  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(891)  
 <223>

<400> 137  
 atg gaa gga ata aat aaa act gca aag atg cag ttt ttc ttt cgt cca 48  
 Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
 1 5 10 15  
 ttc tca cct gac cct gag gtc cag atg ctg att ttt gtg gtc ttc ctg 96  
 Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30  
 atg atg tat ctg acc agc ctc ggt gga aat gct aca att gca gtc att 144  
 Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45  
 gtt cag atc aat cat tcc ctc cac acc ccc atg tac ttt ttc ctg gct 192  
 Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60  
 aat ctg gca gtt cta gaa atc ttc tat aca tct tcc atc acc cca ttg 240  
 Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu  
 65 70 75 80

gcc ttg gca aac ctc ctt tca atg ggc aaa act cct gtt tcc atc acg 288  
 Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr  
 85 90 95

gga tgt ggc acc cag atg ttt ttc ttt gtc ttc ttg ggt ggg gct gat 336  
 Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp  
 100 105 110

tgt gtc ctg ctg gta gtc atg gct tat gac cag ttt ata gcg atc tgt 384  
 Cys Val Leu Leu Val Val Met Ala Tyr Asp Gln Phe Ile Ala Ile Cys  
 115 120 125

cac cct ctg cga tac agg ctc atc atg agc tgg tcc ttg tgt gtg gag 432  
 His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu  
 130 135 140

ctg ctg gta ggc tcc ttg gtg ctg ggg ttc ctg ttg tca ctg cca ctc 480  
 Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu  
 145 150 155 160

acc att tta atc ttc cat ctc cca ttc tgc cac aat gat gag atc tac 528  
 Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr  
 165 170 175

cac ttc tac tgt gac atg cct gca gtc atg cgc ctg gct tgt gca gac 576  
 His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp  
 180 185 190

aca cgc gtt cac aag act gct ctg tat atc atc agc ttc atc gtc ctt 624  
 Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu  
 195 200 205

agc atc ccc ctc tca ttg atc tcc atc tcc tat gtc ttc atc gtg gta 672  
 Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val  
 210 215 220

gcc att tta cgg atc cgg tca gca gaa ggg cgc cag caa gcc tac tct 720  
 Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser  
 225 230 235 240

acc tgc tct tct cac atc tta gtg gtc ctc ctg cag tat ggc tgc acc 768  
 Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr  
 245 250 255

agc ttt ata tac ttg tcc ccc agt tcc agc tac tct cct gag atg ggc 816  
 Ser Phe Ile Tyr Leu Ser Pro Ser Ser Ser Tyr Ser Pro Glu Met Gly  
 260 265 270

cgg gtg gta tct gtg gcc tac aca ttt atc act ccc att tta aac ccc 864  
 Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro  
 275 280 285

ttg atc tat agt ttg agg aac aag gaa c 892  
 Leu Ile Tyr Ser Leu Arg Asn Lys Glu  
 290 295

<210> 138  
 <211> 297  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 138

Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
 1 5 10 15

Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30

Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45

Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu  
 65 70 75 80

Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr  
 85 90 95

Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp  
 100 105 110

Cys Val Leu Leu Val Val Met Ala Tyr Asp Gln Phe Ile Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu  
 130 135 140

Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu  
 145 150 155 160

Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr  
 165 170 175

His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp  
 180 185 190

Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu  
 195 200 205

Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val  
 210 215 220

Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser  
 225 230 235 240

Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr  
 245 250 255

Ser Phe Ile Tyr Leu Ser Pro Ser Ser Ser Tyr Ser Pro Glu Met Gly  
 260 265 270

Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu  
 290 295

<210> 139  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)  
 <223>

<400> 139  
 atg gtt gaa gaa aat cat acc atg aaa aat gag ttt atc ctc aca gga 48  
 Met Val Glu Glu Asn His Thr Met Lys Asn Glu Phe Ile Leu Thr Gly  
 1 5 10 15

ttt aca gat cac cct gag ctg aag act ctg ctg ttt gtg gtg ttc ttt 96  
 Phe Thr Asp His Pro Glu Leu Lys Thr Leu Leu Phe Val Val Phe Phe  
 20 25 30

gcc atc tat ctg atc acc gtg gtg ggg aat att agt ttg gtg gca ctg 144  
 Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu  
 35 40 45

ata ttt aca cac tgt cgg ctt cac aca cca atg tac atc ttt ctg gga 192  
 Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly  
 50 55 60

aat ctg gct ctt gtg gat tct tgc tgt gcc tgt gct att acc ccc aaa 240  
 Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys  
 65 70 75 80

atg tta gag aac ttc ttt tct gag ggc aaa agg att tcc ctc tat gaa 288  
 Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu  
 85 90 95

tgt gca gta cag ttt tat ttt ctt tgc act gtg gaa act gca gac tgc 336  
 Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys  
 100 105 110

ttt ctt ctg gca gca gtg gcc tat gac cgc tat gtg gcc atc tgc aac 384  
 Phe Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

cca ctg cag tac cac atc atg atg tcc aag aaa ctc tgc att cag atg 432  
 Pro Leu Gln Tyr His Ile Met Met Ser Lys Lys Leu Cys Ile Gln Met  
 130 135 140

acc aca ggc gcc ttc ata gct gga aat ctg cat tcc atg att cat gta 480  
 Thr Thr Gly Ala Phe Ile Ala Gly Asn Leu His Ser Met Ile His Val  
 145 150 155 160

ggg ctt gta ttt agg tta gtt ttc tgt gga ttg aat cac atc aac cac 528  
 Gly Leu Val Phe Arg Leu Val Phe Cys Gly Leu Asn His Ile Asn His  
 165 170 175

ttt tac tgt gat act ctt ccc ttg tat aga ctc tcc tgt gtt gac cct 576  
 Phe Tyr Cys Asp Thr Leu Pro Leu Tyr Arg Leu Ser Cys Val Asp Pro  
 180 185 190

ttc atc aat gaa ctg gtt cta ttc atc ttc tca ggt tca gtt caa gtc 624  
 Phe Ile Asn Glu Leu Val Leu Phe Ile Phe Ser Gly Ser Val Gln Val  
 195 200 205

ttt acc ata ggt agt gtc tta ata tct tat ctc tat att ctt ctt act 672  
 Phe Thr Ile Gly Ser Val Leu Ile Ser Tyr Leu Tyr Ile Leu Leu Thr  
 210 215 220

att ttc aga atg aaa tcc aag gag gga agg gcc aaa gcc ttt tct act 720  
 Ile Phe Arg Met Lys Ser Lys Glu Gly Arg Ala Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gca tcc cac ttt tca tca gtt tca tta ttc tat gga tct att ttt 768  
 Cys Ala Ser His Phe Ser Ser Val Ser Leu Phe Tyr Gly Ser Ile Phe  
 245 250 255

ttc cta tac att aga cca aat ttg ctt gaa gaa gga ggt aat gat ata 816  
 Phe Leu Tyr Ile Arg Pro Asn Leu Leu Glu Glu Gly Gly Asn Asp Ile  
 260 265 270

cca gct gct att tta ttt aca ata gta gtt ccc tta cta aat cct ttc 864  
 Pro Ala Ala Ile Leu Phe Thr Ile Val Val Pro Leu Leu Asn Pro Phe  
 275 280 285

att tat agt ctg aga aac aag gaa gta ata agt gtc tta aga aaa att 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Ile Ser Val Leu Arg Lys Ile  
 290 295 300

ctg ctg aaa ata aaa tct caa gga agt gtg aac aaa tga 951  
 Leu Leu Lys Ile Lys Ser Gln Gly Ser Val Asn Lys  
 305 310 315

<210> 140  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 140

Met Val Glu Glu Asn His Thr Met Lys Asn Glu Phe Ile Leu Thr Gly  
 1 5 10 15

Phe Thr Asp His Pro Glu Leu Lys Thr Leu Leu Phe Val Val Phe Phe  
 20 25 30  
 Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu  
 35 40 45  
 Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly  
 50 55 60  
 Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys  
 65 70 75 80  
 Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu  
 85 90 95  
 Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys  
 100 105 110  
 Phe Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Gln Tyr His Ile Met Met Ser Lys Lys Leu Cys Ile Gln Met  
 130 135 140  
 Thr Thr Gly Ala Phe Ile Ala Gly Asn Leu His Ser Met Ile His Val  
 145 150 155 160  
 Gly Leu Val Phe Arg Leu Val Phe Cys Gly Leu Asn His Ile Asn His  
 165 170 175  
 Phe Tyr Cys Asp Thr Leu Pro Leu Tyr Arg Leu Ser Cys Val Asp Pro  
 180 185 190  
 Phe Ile Asn Glu Leu Val Leu Phe Ile Phe Ser Gly Ser Val Gln Val  
 195 200 205  
 Phe Thr Ile Gly Ser Val Leu Ile Ser Tyr Leu Tyr Ile Leu Leu Thr  
 210 215 220  
 Ile Phe Arg Met Lys Ser Lys Glu Gly Arg Ala Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Phe Ser Ser Val Ser Leu Phe Tyr Gly Ser Ile Phe  
 245 250 255  
 Phe Leu Tyr Ile Arg Pro Asn Leu Leu Glu Glu Gly Gly Asn Asp Ile

260 265 270

Pro Ala Ala Ile Leu Phe Thr Ile Val Val Pro Leu Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Ile Ser Val Leu Arg Lys Ile  
 290 295 300

Leu Leu Lys Ile Lys Ser Gln Gly Ser Val Asn Lys  
 305 310 315

<210> 141  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(936)  
 <223>

<400> 141

atg gat cag aaa aat gga agt tct ttc act gga ttt atc cta ctg ggt	48
Met Asp Gln Lys Asn Gly Ser Ser Phe Thr Gly Phe Ile Leu Leu Gly	
1 5 10 15	
ttc tct gac agg cct cag ctg gag cta gtc ctc ttt gtg gtt ctt ttg	96
Phe Ser Asp Arg Pro Gln Leu Glu Val Leu Phe Val Val Leu Leu	
20 25 30	
atc ttc tat atc ttc act ttg ctg ggg aac aaa acc atc att gta tta	144
Ile Phe Tyr Ile Phe Thr Leu Leu Gly Asn Lys Thr Ile Ile Val Leu	
35 40 45	
tct cac ttg gac cca cat ctt cac act cct atg tat ttt ttc ttc tcc	192
Ser His Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Phe Ser	
50 55 60	
aac cta agc ttt ttg gat ctg tgt tac aca acc ggc att gtt cca cag	240
Asn Leu Ser Phe Leu Asp Leu Cys Tyr Thr Thr Gly Ile Val Pro Gln	
65 70 75 80	
ctc ctg gtt aat ctc agg gga gca gac aaa tca atc tcc tat ggt ggt	288
Leu Leu Val Asn Leu Arg Gly Ala Asp Lys Ser Ile Ser Tyr Gly Gly	
85 90 95	
tgt gta gtt cag ctg tac atc tct cta ggc ttg gga tct aca gaa tgc	336
Cys Val Val Gln Leu Tyr Ile Ser Leu Gly Leu Gly Ser Thr Glu Cys	
100 105 110	
gtt ctt ttt tta gtg atg gta ttt gac cgc tat gca gct gtt tgc agg	384
Val Leu Phe Leu Val Met Val Phe Asp Arg Tyr Ala Ala Val Cys Arg	
115 120 125	
ccc ctc cac tac aca gta gtc atg cac cct tgt ctg tat gtg ctg atg	432
Pro Leu His Tyr Thr Val Val Met His Pro Cys Leu Tyr Val Leu Met	

130	135	140	
gct tct act tca tgg gtc att ggt ttt gcc aac tcc cta ttg cag acg			480
Ala Ser Thr Ser Trp Val Ile Gly Phe Ala Asn Ser Leu Leu Gln Thr			
145	150	155	160
gtg ctc atc ttg ctt tta aca ctt tgt gga aga aat aaa tta gaa cac			528
Val Leu Ile Leu Leu Leu Thr Leu Cys Gly Arg Asn Lys Leu Glu His			
	165	170	175
ttt ctt tgt gag gtt cct cca ttg ctc aag ctt gcc tgt gtt gac act			576
Phe Leu Cys Glu Val Pro Pro Leu Leu Lys Leu Ala Cys Val Asp Thr			
	180	185	190
act atg aat gaa tct gaa ctc ttc ttt gtc agt gtc att att ctt ctt			624
Thr Met Asn Glu Ser Glu Leu Phe Phe Val Ser Val Ile Ile Leu Leu			
	195	200	205
gta cct gtt gca tta atc ata ttc tcc tat agt cag att gtc agg gca			672
Val Pro Val Ala Leu Ile Ile Phe Ser Tyr Ser Gln Ile Val Arg Ala			
	210	215	220
gtc atg agg ata aag tta gca aca ggg cag aga aaa gtg ttt ggg aca			720
Val Met Arg Ile Lys Leu Ala Thr Gly Gln Arg Lys Val Phe Gly Thr			
	225	230	240
tgt ggc tcc cac ctc aca gtg gtt tcc ctg ttc tac ggc aca gct atc			768
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Thr Ala Ile			
	245	250	255
tat gct tac ctc cag ccc ggc aac aac tac tct cag gat cag ggc aag			816
Tyr Ala Tyr Leu Gln Pro Gly Asn Asn Tyr Ser Gln Asp Gln Gly Lys			
	260	265	270
ttc atc tct ctc ttc tac acc atc att aca ccc atg atc aac ccc ctc			864
Phe Ile Ser Leu Phe Tyr Thr Ile Ile Thr Pro Met Ile Asn Pro Leu			
	275	280	285
ata tat aca ctg agg aac aag gat gtg aaa gga gca ctt aag aag gtg			912
Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val			
	290	295	300
ctc tgg aag aac tac gac tcc aga tga			939
Leu Trp Lys Asn Tyr Asp Ser Arg			
305	310		

&lt;210&gt; 142

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 142

Met Asp Gln Lys Asn Gly Ser Ser Phe Thr Gly Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asp Arg Pro Gln Leu Glu Leu Val Leu Phe Val Val Leu Leu
20 25 30



Ile Phe Tyr Ile Phe Thr Leu Leu Gly Asn Lys Thr Ile Ile Val Leu  
35 40 45

Ser His Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Phe Ser  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Thr Thr Gly Ile Val Pro Gln  
65 70 75 80

Leu Leu Val Asn Leu Arg Gly Ala Asp Lys Ser Ile Ser Tyr Gly Gly  
85 90 95

Cys Val Val Gln Leu Tyr Ile Ser Leu Gly Leu Gly Ser Thr Glu Cys  
100 105 110

Val Leu Phe Leu Val Met Val Phe Asp Arg Tyr Ala Ala Val Cys Arg  
115 120 125

Pro Leu His Tyr Thr Val Val Met His Pro Cys Leu Tyr Val Leu Met  
130 135 140

Ala Ser Thr Ser Trp Val Ile Gly Phe Ala Asn Ser Leu Leu Gln Thr  
145 150 155 160

Val Leu Ile Leu Leu Leu Thr Leu Cys Gly Arg Asn Lys Leu Glu His  
165 170 175

Phe Leu Cys Glu Val Pro Pro Leu Leu Lys Leu Ala Cys Val Asp Thr  
180 185 190

Thr Met Asn Glu Ser Glu Leu Phe Phe Val Ser Val Ile Ile Leu Leu  
195 200 205

Val Pro Val Ala Leu Ile Ile Phe Ser Tyr Ser Gln Ile Val Arg Ala  
210 215 220

Val Met Arg Ile Lys Leu Ala Thr Gly Gln Arg Lys Val Phe Gly Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Thr Ala Ile  
245 250 255

Tyr Ala Tyr Leu Gln Pro Gly Asn Asn Tyr Ser Gln Asp Gln Gly Lys  
260 265 270

Phe Ile Ser Leu Phe Tyr Thr Ile Ile Thr Pro Met Ile Asn Pro Leu  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val  
 290 295 300

Leu Trp Lys Asn Tyr Asp Ser Arg  
 305 310

<210> 143  
 <211> 924  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(921)  
 <223>

<400> 143  
 atg aat cac agc gtt gta act gag ttc att att ctg ggc ctc acc aaa 48  
 Met Asn His Ser Val Val Thr Glu Phe Ile Ile Leu Gly Leu Thr Lys  
 1 5 10 15  
 aag cct gaa ctc cag gga att atc ttc ctc ttt ttt ctc att gtc tat 96  
 Lys Pro Glu Leu Gln Gly Ile Ile Phe Leu Phe Phe Leu Ile Val Tyr  
 20 25 30  
 ctt gtg gct ttt ctc ggc aac atg ctc atc atc att gcc aaa atc tat 144  
 Leu Val Ala Phe Leu Gly Asn Met Leu Ile Ile Ile Ala Lys Ile Tyr  
 35 40 45  
 aac aac acc ttg cat acg ccc atg tat gtt ttc ctt ctg aca ctg gct 192  
 Asn Asn Thr Leu His Thr Pro Met Tyr Val Phe Leu Leu Thr Leu Ala  
 50 55 60  
 gtt gtg gac atc atc tgc aca aca agc atc ata ccg aag atg ctg ggg 240  
 Val Val Asp Ile Ile Cys Thr Thr Ser Ile Ile Pro Lys Met Leu Gly  
 65 70 75 80  
 acc atg cta aca tca gaa aat acc att tca tat gca ggc tgc atg tcc 288  
 Thr Met Leu Thr Ser Glu Asn Thr Ile Ser Tyr Ala Gly Cys Met Ser  
 85 90 95  
 cag ctc ttc ttg ttc aca tgg tct ctg gga gct gag atg gtt ctc ttc 336  
 Gln Leu Phe Leu Phe Thr Trp Ser Leu Gly Ala Glu Met Val Leu Phe  
 100 105 110  
 acc acc atg gcc tat gac cgc tat gtg gcc att tgt ttc cct ctt cat 384  
 Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu His  
 115 120 125  
 tac agt act gtt atg aac cac cat atg tgt gta gcc ttg ctc agc atg 432  
 Tyr Ser Thr Val Met Asn His His Met Cys Val Ala Leu Leu Ser Met  
 130 135 140  
 gtc atg gct att gca gtc acc aat tcc tgg gtg cac aca gct ctt atc 480

Val Met Ala Ile Ala Val Thr Asn Ser Trp Val His Thr Ala Leu Ile	
145 150 155 160	
atg agg ttg act ttc tgt ggg cca aac acc att gac cac ttc ttc tgt	528
Met Arg Leu Thr Phe Cys Gly Pro Asn Thr Ile Asp His Phe Phe Cys	
165 170 175	
gag ata ccc cca ttg ctg gct ttg tcc tgt agc cct gta aga atc aat	576
Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Pro Val Arg Ile Asn	
180 185 190	
gag gtg atg gtg tat gtt gct gat att acc ctg gcc ata ggg gac ttt	624
Glu Val Met Val Tyr Val Ala Asp Ile Thr Leu Ala Ile Gly Asp Phe	
195 200 205	
att ctt acc tgc atc tcc tat ggt ttt atc att gtt gct att ctc cgt	672
Ile Leu Thr Cys Ile Ser Tyr Gly Phe Ile Ile Val Ala Ile Leu Arg	
210 215 220	
atc cgc aca gta gaa ggc aag agg aag gcc ttc tca aca tgc tca tct	720
Ile Arg Thr Val Glu Gly Lys Arg Lys Ala Phe Ser Thr Cys Ser Ser	
225 230 235 240	
cat ctc aca gtg gtg acc ctt tac tat tct cct gta atc tac acc tat	768
His Leu Thr Val Val Thr Leu Tyr Tyr Ser Pro Val Ile Tyr Thr Tyr	
245 250 255	
atc cgc cct gct tcc agc tat aca ttt gaa aga gac aag gtg gta gct	816
Ile Arg Pro Ala Ser Ser Tyr Thr Phe Glu Arg Asp Lys Val Val Ala	
260 265 270	
gca ctc tat act ctt gtg act ccc aca tta aac ccg atg gtg tac agc	864
Ala Leu Tyr Thr Leu Val Thr Pro Thr Leu Asn Pro Met Val Tyr Ser	
275 280 285	
ttc cag aat agg gag atg cag gca gga att agg aag gtg ttt gca ttt	912
Phe Gln Asn Arg Glu Met Gln Ala Gly Ile Arg Lys Val Phe Ala Phe	
290 295 300	
ctg aaa cac tag	924
Leu Lys His	
305	
<210> 144	
<211> 307	
<212> PRT	
<213> Homo Sapiens	
<400> 144	
Met Asn His Ser Val Val Thr Glu Phe Ile Ile Leu Gly Leu Thr Lys	
1 5 10 15	
Lys Pro Glu Leu Gln Gly Ile Ile Phe Leu Phe Phe Leu Ile Val Tyr	
20 25 30	
Leu Val Ala Phe Leu Gly Asn Met Leu Ile Ile Ile Ala Lys Ile Tyr	
35 40 45	

Asn Asn Thr Leu His Thr Pro Met Tyr Val Phe Leu Leu Thr Leu Ala  
 50 55 60

Val Val Asp Ile Ile Cys Thr Thr Ser Ile Ile Pro Lys Met Leu Gly  
 65 70 75 80

Thr Met Leu Thr Ser Glu Asn Thr Ile Ser Tyr Ala Gly Cys Met Ser  
 85 90 95

Gln Leu Phe Leu Phe Thr Trp Ser Leu Gly Ala Glu Met Val Leu Phe  
 100 105 110

Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu His  
 115 120 125

Tyr Ser Thr Val Met Asn His His Met Cys Val Ala Leu Leu Ser Met  
 130 135 140

Val Met Ala Ile Ala Val Thr Asn Ser Trp Val His Thr Ala Leu Ile  
 145 150 155 160

Met Arg Leu Thr Phe Cys Gly Pro Asn Thr Ile Asp His Phe Phe Cys  
 165 170 175

Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Pro Val Arg Ile Asn  
 180 185 190

Glu Val Met Val Tyr Val Ala Asp Ile Thr Leu Ala Ile Gly Asp Phe  
 195 200 205

Ile Leu Thr Cys Ile Ser Tyr Gly Phe Ile Ile Val Ala Ile Leu Arg  
 210 215 220

Ile Arg Thr Val Glu Gly Lys Arg Lys Ala Phe Ser Thr Cys Ser Ser  
 225 230 235 240

His Leu Thr Val Val Thr Leu Tyr Tyr Ser Pro Val Ile Tyr Thr Tyr  
 245 250 255

Ile Arg Pro Ala Ser Ser Tyr Thr Phe Glu Arg Asp Lys Val Val Ala  
 260 265 270

Ala Leu Tyr Thr Leu Val Thr Pro Thr Leu Asn Pro Met Val Tyr Ser  
 275 280 285

Phe Gln Asn Arg Glu Met Gln Ala Gly Ile Arg Lys Val Phe Ala Phe  
 290 295 300

Leu Lys His  
 305

<210> 145  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (945)  
 <223>

<400> 145  
 atg acc aat cag aca cag atg atg gaa ttc ttg ctt gtg aga ttt act 48  
 Met Thr Asn Gln Thr Gln Met Met Glu Phe Leu Leu Val Arg Phe Thr  
 1 5 10 15  
 gag aat tgg gtg ctc ctg agg ctg cat gct ttg ctc ttc tca ctg atc 96  
 Glu Asn Trp Val Leu Leu Arg Leu His Ala Leu Leu Phe Ser Leu Ile  
 20 25 30  
 tac ctc acg gct gtg ctg atg aat tta gtc atc att ctc ctc atg att 144  
 Tyr Leu Thr Ala Val Leu Met Asn Leu Val Ile Ile Leu Leu Met Ile  
 35 40 45  
 ctg gac cat cgt ctc cac atg gca atg tac ttt ttc ctc cga cat ttg 192  
 Leu Asp His Arg Leu His Met Ala Met Tyr Phe Phe Leu Arg His Leu  
 50 55 60  
 tcc ttc tta gac ctg tgt ctc att tct gcc aca gtc ccc aaa tcc atc 240  
 Ser Phe Leu Asp Leu Cys Leu Ile Ser Ala Thr Val Pro Lys Ser Ile  
 65 70 75 80  
 ctc aac tct gtc gcc tcc act gac tcc atc tcc ttc ctg ggg tgt gtg 288  
 Leu Asn Ser Val Ala Ser Thr Asp Ser Ile Ser Phe Leu Gly Cys Val  
 85 90 95  
 ttg cag ctc ttc ttg gtg gta ctg ctg gct gga tca gag att ggc atc 336  
 Leu Gln Leu Phe Leu Val Val Leu Leu Ala Gly Ser Glu Ile Gly Ile  
 100 105 110  
 ctt act gcc atg tcc tat gac cgc tat gct gcc atc tgc tgc ccc cta 384  
 Leu Thr Ala Met Ser Tyr Asp Arg Tyr Ala Ala Ile Cys Cys Pro Leu  
 115 120 125  
 cac tgt gag gct gtc atg agc aga ggg ctc tgt gtc cag ttg atg gct 432  
 His Cys Glu Ala Val Met Ser Arg Gly Leu Cys Val Gln Leu Met Ala  
 130 135 140  
 ctg tcc tgg ctc aac aga ggg gcc ttg gga ctc ttg tac aca gct gga 480  
 Leu Ser Trp Leu Asn Arg Gly Ala Leu Gly Leu Leu Tyr Thr Ala Gly  
 145 150 155 160

aca ttc tct ctg aat ttt tat ggc tct gat gag cta cat cag ttc ttc 528  
 Thr Phe Ser Leu Asn Phe Tyr Gly Ser Asp Glu Leu His Gln Phe Phe  
 165 170 175  
 tgc gat gtc cct gcc cta cta aag ctc act tgt tct aaa gaa cat gcc 576  
 Cys Asp Val Pro Ala Leu Leu Lys Leu Thr Cys Ser Lys Glu His Ala  
 180 185 190  
 atc att agt gtc agt gtg gcc att ggg gtc tgt tat gca ttt tca tgt 624  
 Ile Ile Ser Val Ser Val Ala Ile Gly Val Cys Tyr Ala Phe Ser Cys  
 195 200 205  
 tta gtt tgc att gta gtt tcc tat gtg tac att ttc tct gct gtg tta 672  
 Leu Val Cys Ile Val Val Ser Tyr Val Tyr Ile Phe Ser Ala Val Leu  
 210 215 220  
 agg ata tca cag aga cag aga caa tcc aaa gcc ttt tcc aac tgt gtg 720  
 Arg Ile Ser Gln Arg Gln Arg Gln Ser Lys Ala Phe Ser Asn Cys Val  
 225 230 235 240  
 cct cac ctc att gtt gtc act gtg ttt ctt gta aca ggt gct gtt gct 768  
 Pro His Leu Ile Val Val Thr Val Phe Leu Val Thr Gly Ala Val Ala  
 245 250 255  
 tat tta aag cca ggg tct gat gca cct tct att cta gac ttg ctg gtg 816  
 Tyr Leu Lys Pro Gly Ser Asp Ala Pro Ser Ile Leu Asp Leu Leu Val  
 260 265 270  
 tct gtg ttc tat tct gtc gca cct cca acc ttg aac cct gtt atc tac 864  
 Ser Val Phe Tyr Ser Val Ala Pro Pro Thr Leu Asn Pro Val Ile Tyr  
 275 280 285  
 tgt ctg aag aac aag gac att aaa tcc gct ctg agt aaa gtc ctg tgg 912  
 Cys Leu Lys Asn Lys Asp Ile Lys Ser Ala Leu Ser Lys Val Leu Trp  
 290 295 300  
 aat gtt aga agc agt ggg gta atg aaa gat gac taa 948  
 Asn Val Arg Ser Ser Gly Val Met Lys Asp Asp  
 305 310 315

<210> 146  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 146

Met Thr Asn Gln Thr Gln Met Met Glu Phe Leu Leu Val Arg Phe Thr  
 1 5 10 15

Glu Asn Trp Val Leu Leu Arg Leu His Ala Leu Leu Phe Ser Leu Ile  
 20 25 30

Tyr Leu Thr Ala Val Leu Met Asn Leu Val Ile Ile Leu Leu Met Ile  
 35 40 45

Leu Asp His Arg Leu His Met Ala Met Tyr Phe Phe Leu Arg His Leu

50                                      55                                      60  
 Ser Phe Leu Asp Leu Cys Leu Ile Ser Ala Thr Val Pro Lys Ser Ile  
 65                                      70                                      75                                      80  
 Leu Asn Ser Val Ala Ser Thr Asp Ser Ile Ser Phe Leu Gly Cys Val  
                                     85                                      90                                      95  
 Leu Gln Leu Phe Leu Val Val Leu Leu Ala Gly Ser Glu Ile Gly Ile  
                                     100                                      105                                      110  
 Leu Thr Ala Met Ser Tyr Asp Arg Tyr Ala Ala Ile Cys Cys Pro Leu  
                                     115                                      120                                      125  
 His Cys Glu Ala Val Met Ser Arg Gly Leu Cys Val Gln Leu Met Ala  
                                     130                                      135                                      140  
 Leu Ser Trp Leu Asn Arg Gly Ala Leu Gly Leu Leu Tyr Thr Ala Gly  
 145                                      150                                      155                                      160  
 Thr Phe Ser Leu Asn Phe Tyr Gly Ser Asp Glu Leu His Gln Phe Phe  
                                     165                                      170                                      175  
 Cys Asp Val Pro Ala Leu Leu Lys Leu Thr Cys Ser Lys Glu His Ala  
                                     180                                      185                                      190  
 Ile Ile Ser Val Ser Val Ala Ile Gly Val Cys Tyr Ala Phe Ser Cys  
                                     195                                      200                                      205  
 Leu Val Cys Ile Val Val Ser Tyr Val Tyr Ile Phe Ser Ala Val Leu  
                                     210                                      215                                      220  
 Arg Ile Ser Gln Arg Gln Arg Gln Ser Lys Ala Phe Ser Asn Cys Val  
 225                                      230                                      235                                      240  
 Pro His Leu Ile Val Val Thr Val Phe Leu Val Thr Gly Ala Val Ala  
                                     245                                      250                                      255  
 Tyr Leu Lys Pro Gly Ser Asp Ala Pro Ser Ile Leu Asp Leu Leu Val  
                                     260                                      265                                      270  
 Ser Val Phe Tyr Ser Val Ala Pro Pro Thr Leu Asn Pro Val Ile Tyr  
                                     275                                      280                                      285  
 Cys Leu Lys Asn Lys Asp Ile Lys Ser Ala Leu Ser Lys Val Leu Trp  
                                     290                                      295                                      300

Asn Val Arg Ser Ser Gly Val Met Lys Asp Asp  
 305 310 315

<210> 147  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(936)  
 <223>

<400> 147  
 atg cat caa gga aac caa acc acc atc act gaa ttc att ctc ctg gga 48  
 Met His Gln Gly Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 ttt ttc aag cag gat gag cat caa aac ctc ctc ttt gtg ctt ttc ttg 96  
 Phe Phe Lys Gln Asp Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu  
 20 25 30  
 ggt atg tac ctg gtc act gtg att ggg aac ggg ctc atc att gtg gct 144  
 Gly Met Tyr Leu Val Thr Val Ile Gly Asn Gly Leu Ile Ile Val Ala  
 35 40 45  
 atc agc ttg gat acg tac ctt cat acc ccc atg tat ctc ttc ctt gcc 192  
 Ile Ser Leu Asp Thr Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala  
 50 55 60  
 aat cta tcc ttt gct gat att tcc tcc att tcc aac tca gtc ccc aaa 240  
 Asn Leu Ser Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys  
 65 70 75 80  
 atg ctg gtg aat att caa acc aag agt caa tcc atc tct tat gag agc 288  
 Met Leu Val Asn Ile Gln Thr Lys Ser Gln Ser Ile Ser Tyr Glu Ser  
 85 90 95  
 tgc atc aca cag atg tac ttt tct att gtg ttt gtc gtc att gac aat 336  
 Cys Ile Thr Gln Met Tyr Phe Ser Ile Val Phe Val Val Ile Asp Asn  
 100 105 110  
 ttg ctc ttg ggg acc atg gcc tat gac cac ttt gtg gcg atc tgc cac 384  
 Leu Leu Leu Gly Thr Met Ala Tyr Asp His Phe Val Ala Ile Cys His  
 115 120 125  
 cct ctg aat tat aca att ctc atg cgg ccc agg ttc ggc att ttg ctc 432  
 Pro Leu Asn Tyr Thr Ile Leu Met Arg Pro Arg Phe Gly Ile Leu Leu  
 130 135 140  
 aca gtc atc tca tgg ttc ctc agt aat att att gct ctg aca cac acc 480  
 Thr Val Ile Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr  
 145 150 155 160  
 ctt ctg ctc att caa ttg ctc ttc tgt aac cac aac act ctc cca cac 528  
 Leu Leu Leu Ile Gln Leu Leu Phe Cys Asn His Asn Thr Leu Pro His  
 165 170 175



ttc ttc tgt gac ttg gcc cct ctg ctc aaa ctg tcc tgt tca gat aca 576  
 Phe Phe Cys Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190

ttg atc aat gag ctt gtg ttg ttt att gtg ggt tta tca gtt atc atc 624  
 Leu Ile Asn Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile  
 195 200 205

ttc ccc ttt aca ctc agc ttc ttt tcc tat gtc tgc atc atc aga gct 672  
 Phe Pro Phe Thr Leu Ser Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala  
 210 215 220

gtc ctg aga gta tct tcc aca cag gga aag tgg aaa gcc ttc tcc act 720  
 Val Leu Arg Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr  
 225 230 235 240

tgt ggc tct cac ctg aca gtt gta tta ctg ttc tac gga acc att gta 768  
 Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly Thr Ile Val  
 245 250 255

ggc gtg tac ttt ttc ccc tcc tcc act cac cct gag gac act gat aag 816  
 Gly Val Tyr Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys  
 260 265 270

att ggt gct gtc cta ttc act gtg gtg aca ccc atg ata aac ccc ttc 864  
 Ile Gly Ala Val Leu Phe Thr Val Val Thr Pro Met Ile Asn Pro Phe  
 275 280 285

atc tac agc ttg agg aat aag gat atg aaa ggt gcc ctg aga aag ctc 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Arg Lys Leu  
 290 295 300

atc aat aga aaa att tct tcc ctt tga 939  
 Ile Asn Arg Lys Ile Ser Ser Leu  
 305 310

&lt;210&gt; 148

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 148

Met His Gln Gly Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15

Phe Phe Lys Gln Asp Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu  
20 25 30

Gly Met Tyr Leu Val Thr Val Ile Gly Asn Gly Leu Ile Ile Val Ala  
35 40 45

Ile Ser Leu Asp Thr Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala  
50 55 60

Asn Leu Ser Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys  
 65 70 75 80  
 Met Leu Val Asn Ile Gln Thr Lys Ser Gln Ser Ile Ser Tyr Glu Ser  
 85 90 95  
 Cys Ile Thr Gln Met Tyr Phe Ser Ile Val Phe Val Val Ile Asp Asn  
 100 105 110  
 Leu Leu Leu Gly Thr Met Ala Tyr Asp His Phe Val Ala Ile Cys His  
 115 120 125  
 Pro Leu Asn Tyr Thr Ile Leu Met Arg Pro Arg Phe Gly Ile Leu Leu  
 130 135 140  
 Thr Val Ile Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr  
 145 150 155 160  
 Leu Leu Leu Ile Gln Leu Leu Phe Cys Asn His Asn Thr Leu Pro His  
 165 170 175  
 Phe Phe Cys Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190  
 Leu Ile Asn Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile  
 195 200 205  
 Phe Pro Phe Thr Leu Ser Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala  
 210 215 220  
 Val Leu Arg Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly Thr Ile Val  
 245 250 255  
 Gly Val Tyr Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys  
 260 265 270  
 Ile Gly Ala Val Leu Phe Thr Val Val Thr Pro Met Ile Asn Pro Phe  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Arg Lys Leu  
 290 295 300  
 Ile Asn Arg Lys Ile Ser Ser Leu

305

310

<210> 149  
 <211> 921  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(918)  
 <223>

<400> 149  
 atg gtg act gag ttt ctt ctt ctc ggc ttc tcc cac ctg gcc gac ctc 48  
 Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu  
 1 5 10 15  
 cag ggc ttg ctc ttc tct gtc ttt ctc act atc tac ctg ctg acc gtg 96  
 Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val  
 20 25 30  
 gca ggc aat ttc ctc att gtg gtg ctg gtc tcc act gat gct gcc ctc 144  
 Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu  
 35 40 45  
 cag tcc cct atg tac ttc ttc ctg cgc acc ctc tcg gcc ttg gag att 192  
 Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile  
 50 55 60  
 ggc tat acg tct gtc acg gtc ccc ctg cta ctt cac cac ctc ctt act 240  
 Gly Tyr Thr Ser Val Thr Val Pro Leu Leu His His Leu Leu Thr  
 65 70 75 80  
 ggc cgg cgc cac atc tct cgc tct gga tgt gct ctc cag atg ttc ttc 288  
 Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe  
 85 90 95  
 ttc ctc ttc ttt ggc gcc acg gag tgc tgc ctc ctg gca gcc atg gcc 336  
 Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala  
 100 105 110  
 tat gac cgc tat gca gcc atc tgt gaa ccc ctc cgc tac cca ctg ctg 384  
 Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu  
 115 120 125  
 ctg agc cac cgg gtg tgt cta cag cta gct ggg tcg gcg tgg gcc tgt 432  
 Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys  
 130 135 140  
 ggg gtg ctg gtg ggg ctg ggc cac acc cct ttc atc ttc tct ttg ccc 480  
 Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro  
 145 150 155 160  
 ttc tgc ggc ccc aat acc atc ccg cag ttc ttc tgt gag atc cag cct 528  
 Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro  
 165 170 175  
 gtc ctg cag ctg gta tgt gga gac acc tcg ctt aat gaa ctg cag att 576  
 Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile

180	185	190	
atc ctg gca aca gcc ctc ctc	atc ctc tgc ccc ttt ggc ctc atc ctg		624
Ile Leu Ala Thr Ala Leu Leu	Ile Leu Cys Pro Phe Gly Leu Ile Leu		
195	200	205	
ggc tcc tac ggg cgt atc ctc	gtt acc atc ttc cgg atc cca tct gtt		672
Gly Ser Tyr Gly Arg Ile Leu	Val Thr Ile Phe Arg Ile Pro Ser Val		
210	215	220	
gcg ggc cgc cgc aag gcc ttc tcc acc	tgc tcc tcc cac ctg atc gtg		720
Ala Gly Arg Arg Lys Ala Phe Ser Thr	Cys Ser Ser His Leu Ile Val		
225	230	235	240
gtc tcc ctc ttc tat ggc acc gca ctc	ttt atc tat att cgc cct aag		768
Val Ser Leu Phe Tyr Gly Thr Ala Leu	Phe Ile Tyr Ile Arg Pro Lys		
245	250	255	
gcc agc tac gat ccg gcc act gac cct	ctg gtg tcc ctc ttc tat gct		816
Ala Ser Tyr Asp Pro Ala Thr Asp Pro	Leu Val Ser Leu Phe Tyr Ala		
260	265	270	
gtg gtc acc ccc atc ctc aac ccc atc	atc tac agc ctg cgg aac aca		864
Val Val Thr Pro Ile Leu Asn Pro Ile	Ile Tyr Ser Leu Arg Asn Thr		
275	280	285	
gag gtc aaa gct gcc cta aag aga acc	atc cag aaa acg gtg cct atg		912
Glu Val Lys Ala Ala Leu Lys Arg Thr	Ile Gln Lys Thr Val Pro Met		
290	295	300	
gag att tga			921
Glu Ile			
305			

<210> 150  
 <211> 306  
 <212> PRT  
 <213> Homo Sapiens

<400> 150

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu  
1 5 10 15

Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val  
20 25 30

Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu  
35 40 45

Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile  
50 55 60

Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr  
65 70 75 80

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe  
85 90 95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala  
100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu  
115 120 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys  
130 135 140

Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro  
145 150 155 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro  
165 170 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile  
180 185 190

Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu  
195 200 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val  
210 215 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val  
225 230 235 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys  
245 250 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala  
260 265 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr  
275 280 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met  
290 295 300

Glu Ile  
305

<210> 151  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (954)  
 <223>

<400> 151  
 atg gaa tgg gaa aac caa acc att ctg gtg gaa ttt ttt ctg aag gga 48  
 Met Glu Trp Glu Asn Gln Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15  
 cat tct gtt cac cca agg ctt gag tta ctc ttt ttt gtg cta atc ttc 96  
 His Ser Val His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30  
 ata atg tat gtg gtc atc ctt ctg ggg aat ggt act ctc att tta atc 144  
 Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45  
 agc atc ttg gac cct cac ctt cac acc cct atg tac ttc ttt ctg ggg 192  
 Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tcc ttc ttg gac atc tgc tac acc acc acc tct att ccc tcc 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80  
 aca cta gtg agc ttc ctt tca gaa aga aag acc att tcc ttt tct ggc 288  
 Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Phe Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ctt ggc ttg gcc atg ggg aca aca gag tgt 336  
 Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 gtg ctt ctg ggc atg atg gcc ttt gac cgc tat gtg gct atc tgc aac 384  
 Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cct ctg aga tat ccc atc atc atg agc aag aat gcc tat gta ccc atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asn Ala Tyr Val Pro Met  
 130 135 140  
 gct gtt ggg tcc tgg ttt gca ggg att gtc aac tct gca gta caa act 480  
 Ala Val Gly Ser Trp Phe Ala Gly Ile Val Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 aca ttt gta gta caa ttg cct ttc tgc agg aag aat gtc atc aat cat 528  
 Thr Phe Val Val Gln Leu Pro Phe Cys Arg Lys Asn Val Ile Asn His  
 165 170 175  
 ttc tca tgt gaa att cta gct gtc atg aag ttg gcc tgt gct gac atc 576  
 Phe Ser Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 tca ggc aat gag ttc ctc atg ctt gtg gcc aca ata ttg ttc aca ttg 624

Ser Gly Asn Glu Phe Leu Met Leu Val Ala Thr Ile Leu Phe Thr Leu  
 195 200 205

atg cca ctg ctc ttg ata gtt atc tct tac tca tta atc att tcc agc 672  
 Met Pro Leu Leu Leu Ile Val Ile Ser Tyr Ser Leu Ile Ile Ser Ser  
 210 215 220

atc ctc aag att cac tcc tct gag ggg aga agc aaa gct ttc tct acc 720  
 Ile Leu Lys Ile His Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

tgc tca gcc cat ctg act gtg gtc ata ata ttc tat ggg acc atc ctc 768  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255

ttc atg tat atg aag ccc aag tct aaa gag aca ctt aat tca gat gac 816  
 Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

ttg gat gct acc gac aaa att ata tcc atg ttc tat ggg gtg atg act 864  
 Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

ccc atg atg aat cct tta atc tac agt ctt aga aac aag gat gtg aaa 912  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gag gca gta aaa cac cta ccg aac aga agg ttc ttt agc aag tga 957  
 Glu Ala Val Lys His Leu Pro Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

<210> 152  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 152

Met Glu Trp Glu Asn Gln Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15

His Ser Val His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Phe Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110

Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asn Ala Tyr Val Pro Met  
 130 135 140

Ala Val Gly Ser Trp Phe Ala Gly Ile Val Asn Ser Ala Val Gln Thr  
 145 150 155 160

Thr Phe Val Val Gln Leu Pro Phe Cys Arg Lys Asn Val Ile Asn His  
 165 170 175

Phe Ser Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190

Ser Gly Asn Glu Phe Leu Met Leu Val Ala Thr Ile Leu Phe Thr Leu  
 195 200 205

Met Pro Leu Leu Leu Ile Val Ile Ser Tyr Ser Leu Ile Ile Ser Ser  
 210 215 220

Ile Leu Lys Ile His Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255

Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Glu Ala Val Lys His Leu Pro Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

<210> 153

<211> 954

<212> DNA



&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(951)

&lt;223&gt;

&lt;400&gt; 153

atg	caa	cca	tat	acc	aaa	aac	tgg	acc	cag	gta	act	gaa	ttt	gtc	atg	48
Met	Gln	Pro	Tyr	Thr	Lys	Asn	Trp	Thr	Gln	Val	Thr	Glu	Phe	Val	Met	
1				5				10					15			

atg	ggc	ttt	gct	ggc	atc	cat	gaa	gca	cac	ctc	ctc	ttc	ttc	ata	ctc	96
Met	Gly	Phe	Ala	Gly	Ile	His	Glu	Ala	His	Leu	Leu	Phe	Phe	Ile	Leu	
			20				25					30				

ttc	ctc	acc	atg	tac	ctg	ttc	acc	ttg	gtg	gag	aat	ttg	gcc	atc	att	144
Phe	Leu	Thr	Met	Tyr	Leu	Phe	Thr	Leu	Val	Glu	Asn	Leu	Ala	Ile	Ile	
		35					40					45				

tta	gtg	gtg	ggt	ttg	gac	cac	cga	cta	cgg	aga	ccc	atg	tat	ttc	ttc	192
Leu	Val	Val	Gly	Leu	Asp	His	Arg	Leu	Arg	Arg	Pro	Met	Tyr	Phe	Phe	
	50					55					60					

ctg	aca	cac	ttg	tcc	tgc	ctt	gaa	atc	tgg	tac	act	tct	gtt	aca	gtg	240
Leu	Thr	His	Leu	Ser	Cys	Leu	Glu	Ile	Trp	Tyr	Thr	Ser	Val	Thr	Val	
65					70				75					80		

ccc	aag	atg	ctg	gct	ggt	ttt	att	ggg	gtg	gat	ggt	ggc	aag	aat	atc	288
Pro	Lys	Met	Leu	Ala	Gly	Phe	Ile	Gly	Val	Asp	Gly	Gly	Lys	Asn	Ile	
				85				90						95		

tct	tat	gct	ggt	tgc	cta	tcc	cag	ctc	ttc	atc	ttc	acc	ttt	ctt	ggg	336
Ser	Tyr	Ala	Gly	Cys	Leu	Ser	Gln	Leu	Phe	Ile	Phe	Thr	Phe	Leu	Gly	
		100					105						110			

gca	act	gag	tgt	ttc	cta	ctg	gct	gcc	atg	gcc	tat	gat	cgt	tat	gtg	384
Ala	Thr	Glu	Cys	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	
		115					120					125				

gcc	att	tgt	atg	cct	ctc	cac	tat	ggg	gct	ttt	gtg	tcc	tgg	ggc	acc	432
Ala	Ile	Cys	Met	Pro	Leu	His	Tyr	Gly	Ala	Phe	Val	Ser	Trp	Gly	Thr	
	130					135					140					

tgc	atc	cgt	ctg	gca	gct	gcc	tgt	tgg	ctg	gta	ggt	ttc	ctc	aca	ccc	480
Cys	Ile	Arg	Leu	Ala	Ala	Ala	Cys	Trp	Leu	Val	Gly	Phe	Leu	Thr	Pro	
145				150				155						160		

atc	ttg	cca	atc	tac	ctc	ttg	tct	cag	cta	aca	ttt	tgt	ggc	cca	aat	528
Ile	Leu	Pro	Ile	Tyr	Leu	Leu	Ser	Gln	Leu	Thr	Phe	Cys	Gly	Pro	Asn	
			165					170					175			

gtc	att	gac	cat	ttc	tcc	tgt	gat	gcc	tca	ccc	ttg	cta	gcc	ttg	tgc	576
Val	Ile	Asp	His	Phe	Ser	Cys	Asp	Ala	Ser	Pro	Leu	Leu	Ala	Leu	Ser	
			180					185					190			

tgc	tca	gat	gtc	act	tgg	aag	gag	act	gtg	gat	ttc	ctg	gtg	tct	ctg	624
Cys	Ser	Asp	Val	Thr	Trp	Lys	Glu	Thr	Val	Asp	Phe	Leu	Val	Ser	Leu	
			195				200					205				

gct gtg cta ctg gcc tcc tct atg gtc att gct gtg tcc tat ggc aac 672  
 Ala Val Leu Leu Ala Ser Ser Met Val Ile Ala Val Ser Tyr Gly Asn  
 210 215 220

atc gtc tgg aca ctg ctg cac atc cgc tca gct gct gag cgc tgg aag 720  
 Ile Val Trp Thr Leu Leu His Ile Arg Ser Ala Ala Glu Arg Trp Lys  
 225 230 235 240

gcc ttc tct acc tgt gca gct cac ctg act gtg gtg agc ctc ttc tat 768  
 Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ser Leu Phe Tyr  
 245 250 255

ggc act ctt ttc ttt atg tat gtc cag acc aag gtg acc tcc tcc atc 816  
 Gly Thr Leu Phe Phe Met Tyr Val Gln Thr Lys Val Thr Ser Ser Ile  
 260 265 270

aac ttc aac aag gtg gta tct gtc ttc tac tct gtt gtc acg ccc atg 864  
 Asn Phe Asn Lys Val Val Ser Val Phe Tyr Ser Val Val Thr Pro Met  
 275 280 285

ctc aat cct ctc atc tac agt ctt agg aac aag gaa gtg aag gga gct 912  
 Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Gly Ala  
 290 295 300

ctg ggt cga gtc ttt tct ctc aac ttt tgg aag gga cag tga 954  
 Leu Gly Arg Val Phe Ser Leu Asn Phe Trp Lys Gly Gln  
 305 310 315

<210> 154

<211> 317

<212> PRT

<213> Homo Sapiens

<400> 154

Met Gln Pro Tyr Thr Lys Asn Trp Thr Gln Val Thr Glu Phe Val Met  
 1 5 10 15

Met Gly Phe Ala Gly Ile His Glu Ala His Leu Leu Phe Phe Ile Leu  
 20 25 30

Phe Leu Thr Met Tyr Leu Phe Thr Leu Val Glu Asn Leu Ala Ile Ile  
 35 40 45

Leu Val Val Gly Leu Asp His Arg Leu Arg Arg Pro Met Tyr Phe Phe  
 50 55 60

Leu Thr His Leu Ser Cys Leu Glu Ile Trp Tyr Thr Ser Val Thr Val  
 65 70 75 80

Pro Lys Met Leu Ala Gly Phe Ile Gly Val Asp Gly Gly Lys Asn Ile  
 85 90 95

Ser Tyr Ala Gly Cys Leu Ser Gln Leu Phe Ile Phe Thr Phe Leu Gly

100	105	110
Ala Thr Glu Cys Phe Leu Leu	Ala Ala Met Ala Tyr Asp Arg Tyr Val	
115	120	125
Ala Ile Cys Met Pro Leu His Tyr Gly Ala Phe Val Ser Trp Gly Thr		
130	135	140
Cys Ile Arg Leu Ala Ala Ala Cys Trp Leu Val Gly Phe Leu Thr Pro		
145	150	155
Ile Leu Pro Ile Tyr Leu Leu Ser Gln Leu Thr Phe Cys Gly Pro Asn		
165	170	175
Val Ile Asp His Phe Ser Cys Asp Ala Ser Pro Leu Leu Ala Leu Ser		
180	185	190
Cys Ser Asp Val Thr Trp Lys Glu Thr Val Asp Phe Leu Val Ser Leu		
195	200	205
Ala Val Leu Leu Ala Ser Ser Met Val Ile Ala Val Ser Tyr Gly Asn		
210	215	220
Ile Val Trp Thr Leu Leu His Ile Arg Ser Ala Ala Glu Arg Trp Lys		
225	230	235
Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ser Leu Phe Tyr		
245	250	255
Gly Thr Leu Phe Phe Met Tyr Val Gln Thr Lys Val Thr Ser Ser Ile		
260	265	270
Asn Phe Asn Lys Val Val Ser Val Phe Tyr Ser Val Val Thr Pro Met		
275	280	285
Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Gly Ala		
290	295	300
Leu Gly Arg Val Phe Ser Leu Asn Phe Trp Lys Gly Gln		
305	310	315

<210> 155  
 <211> 978  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (975)

&lt;223&gt;

&lt;400&gt; 155

atg	acc	acc	ata	att	ctg	gaa	gta	gat	aat	cat	aca	gtg	aca	aca	cgt	48
Met	Thr	Thr	Ile	Ile	Leu	Glu	Val	Asp	Asn	His	Thr	Val	Thr	Thr	Arg	
1				5					10					15		

ttc	att	ctt	ctg	ggg	ttt	cca	aca	cga	cca	gcc	ttc	cag	ctt	ctc	ttt	96
Phe	Ile	Leu	Leu	Gly	Phe	Pro	Thr	Arg	Pro	Ala	Phe	Gln	Leu	Leu	Phe	
			20					25					30			

ttc	tcc	att	ttc	ctg	gca	acc	tat	ctg	ctg	aca	ctg	ctg	gag	aat	ctt	144
Phe	Ser	Ile	Phe	Leu	Ala	Thr	Tyr	Leu	Leu	Thr	Leu	Leu	Glu	Asn	Leu	
		35					40					45				

ctt	atc	atc	tta	gct	atc	cac	agt	gat	ggg	cag	ctg	cat	aag	ccc	atg	192
Leu	Ile	Ile	Leu	Ala	Ile	His	Ser	Asp	Gly	Gln	Leu	His	Lys	Pro	Met	
	50					55					60					

tac	ttc	ttc	ttg	agc	cac	ctc	tcc	ttc	ctg	gag	atg	tgg	tat	gtc	aca	240
Tyr	Phe	Phe	Leu	Ser	His	Leu	Ser	Phe	Leu	Glu	Met	Trp	Tyr	Val	Thr	
65					70					75				80		

gtc	atc	agc	ccc	aag	atg	ctt	gtt	gac	ttc	ctc	agt	cat	gac	aag	agt	288
Val	Ile	Ser	Pro	Lys	Met	Leu	Val	Asp	Phe	Leu	Ser	His	Asp	Lys	Ser	
				85				90						95		

att	tcc	ttc	aat	ggc	tgc	atg	act	caa	ctt	tac	ttt	ttt	gtg	acc	ttt	336
Ile	Ser	Phe	Asn	Gly	Cys	Met	Thr	Gln	Leu	Tyr	Phe	Phe	Val	Thr	Phe	
			100					105					110			

gtc	tgc	act	gag	tac	atc	ctt	ctt	gct	atc	atg	gcc	ttt	gac	cgc	tat	384
Val	Cys	Thr	Glu	Tyr	Ile	Leu	Leu	Ala	Ile	Met	Ala	Phe	Asp	Arg	Tyr	
		115					120					125				

gta	gcc	att	tgt	aat	cca	cta	cgc	tac	cca	gtc	atc	atg	acc	aac	cag	432
Val	Ala	Ile	Cys	Asn	Pro	Leu	Arg	Tyr	Pro	Val	Ile	Met	Thr	Asn	Gln	
	130					135					140					

ctc	tgt	ggc	aca	ctg	gct	gga	gga	tgc	tgg	ttc	tgt	gga	ctc	atg	act	480
Leu	Cys	Gly	Thr	Leu	Ala	Gly	Gly	Cys	Trp	Phe	Cys	Gly	Leu	Met	Thr	
145					150				155					160		

gcc	atg	att	aag	atg	gtt	ttt	ata	gca	caa	ctt	cac	tac	tgt	ggc	atg	528
Ala	Met	Ile	Lys	Met	Val	Phe	Ile	Ala	Gln	Leu	His	Tyr	Cys	Gly	Met	
				165					170					175		

cct	cag	atc	aat	cac	tac	ttt	tgt	gat	atc	tct	cca	ctc	ctt	aac	gtc	576
Pro	Gln	Ile	Asn	His	Tyr	Phe	Cys	Asp	Ile	Ser	Pro	Leu	Leu	Asn	Val	
			180					185					190			

tcc	tgt	gag	gat	gcc	tca	cag	gct	gag	atg	gtg	gac	ttc	ttc	ttg	gcc	624
Ser	Cys	Glu	Asp	Ala	Ser	Gln	Ala	Glu	Met	Val	Asp	Phe	Phe	Leu	Ala	
		195					200					205				

ctc	atg	gtc	att	gct	att	cct	ctt	tgt	gtt	gtg	gtg	gca	tcc	tac	gct	672
Leu	Met	Val	Ile	Ala	Ile	Pro	Leu	Cys	Val	Val	Val	Ala	Ser	Tyr	Ala	

210	215	220	
gct atc ctt gcc acc atc ctc agg atc cct tct gct cag ggc cgc caa			720
Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln			
225	230	235	240
aag gca ttc tcc acc tgt gcc tcc cac ctg acc gtc gta att ctc ttc			768
Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe			
	245	250	255
tat tcc atg aca ctt ttc acc tat gcc cgt ccc aaa ctc atg tat gcc			816
Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala			
	260	265	270
tac aat tcc aac aaa gtg gta tct gtt ctc tac act gtc att gtt cca			864
Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro			
	275	280	285
ctc ctc aac ccc atc att tac tgt ctg agg aac cat gaa gta aag gca			912
Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala			
	290	295	300
gcc ctc aga aag acc ata cat tgc aga gga agt ggg ccc cag gga aat			960
Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn			
	305	310	315
ggg gct ttc agt agt taa			978
Gly Ala Phe Ser Ser			
	325		

&lt;210&gt; 156

&lt;211&gt; 325

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 156

Met Thr Thr Ile Ile Leu Glu Val Asp Asn His Thr Val Thr Thr Arg
1 5 10 15

Phe Ile Leu Leu Gly Phe Pro Thr Arg Pro Ala Phe Gln Leu Leu Phe
20 25 30

Phe Ser Ile Phe Leu Ala Thr Tyr Leu Leu Thr Leu Leu Glu Asn Leu
35 40 45

Leu Ile Ile Leu Ala Ile His Ser Asp Gly Gln Leu His Lys Pro Met
50 55 60

Tyr Phe Phe Leu Ser His Leu Ser Phe Leu Glu Met Trp Tyr Val Thr
65 70 75 80

Val Ile Ser Pro Lys Met Leu Val Asp Phe Leu Ser His Asp Lys Ser
85 90 95

Ile Ser Phe Asn Gly Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe  
 100 105 110

Val Cys Thr Glu Tyr Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Asn Pro Leu Arg Tyr Pro Val Ile Met Thr Asn Gln  
 130 135 140

Leu Cys Gly Thr Leu Ala Gly Gly Cys Trp Phe Cys Gly Leu Met Thr  
 145 150 155 160

Ala Met Ile Lys Met Val Phe Ile Ala Gln Leu His Tyr Cys Gly Met  
 165 170 175

Pro Gln Ile Asn His Tyr Phe Cys Asp Ile Ser Pro Leu Leu Asn Val  
 180 185 190

Ser Cys Glu Asp Ala Ser Gln Ala Glu Met Val Asp Phe Phe Leu Ala  
 195 200 205

Leu Met Val Ile Ala Ile Pro Leu Cys Val Val Val Ala Ser Tyr Ala  
 210 215 220

Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln  
 225 230 235 240

Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe  
 245 250 255

Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala  
 260 265 270

Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro  
 275 280 285

Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala  
 290 295 300

Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn  
 305 310 315 320

Gly Ala Phe Ser Ser  
 325

<210> 157  
 <211> 927  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(924)  
 <223>

<400> 157  
 atg gtc acc gaa ttc ctg ttg ctg ggt ttt tcc agc ctt ggt gaa att 48  
 Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser Ser Leu Gly Glu Ile  
 1 5 10 15  
 cag ctg gcc ctc ttt gta gtt ttt ctt ttt ctg tat cta gtc att ctt 96  
 Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu  
 20 25 30  
 agt ggc aat gtc acc att atc agt gtc atc cac ctg gat aaa agc ctc 144  
 Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu  
 35 40 45  
 cac aca cca atg tac ttc ttc ctt ggc att ctc tca aca tct gag acc 192  
 His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr  
 50 55 60  
 ttc tac acc ttt gtc att cta ccc aag atg ctc atc aat cta ctt tct 240  
 Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser  
 65 70 75 80  
 gtg gcc agg aca atc tcc ttc aac tgt tgt gct ctt caa atg ttc ttc 288  
 Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe  
 85 90 95  
 ttc ctt ggt ttt gcc att acc aac tgc ctg cta ttg ggt gtg atg ggt 336  
 Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly  
 100 105 110  
 tat gat cgc tat gct gcc att tgt cac cct ctg cat tac ccc act ctt 384  
 Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu  
 115 120 125  
 atg agc tgg cag gtg tgt gga aaa ctg gca gct gcc tgt gca att ggt 432  
 Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly  
 130 135 140  
 ggc ttc ttg gcc tct ctt aca gta gta aat tta gtt ttc agc ctc cct 480  
 Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro  
 145 150 155 160  
 ttt tgt agc gcc aac aaa gtc aat cat tac ttc tgt gac atc tca gca 528  
 Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala  
 165 170 175  
 gtc att ctt ctg gct tgt acc aac aca gat gtt aac gaa ttt gtg ata 576  
 Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile  
 180 185 190  
 ttc att tgt gga gtt ctt gta ctt gtg gtt ccc ttt ctg ttt atc tgt 624

Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys  
 195 200 205  
 gtt tct tat ctc tgc att ctg agg act atc ctg aag att ccc tca gct 672  
 Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala  
 210 215 220  
 gag ggc aga cgg aaa gcg ttt tcc acc tgc gcc tct cac ctc agt gtt 720  
 Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val  
 225 230 235 240  
 gtt att gtt cat tat ggc tgt gct tcc ttc atc tac ctg agg cct aca 768  
 Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr  
 245 250 255  
 gca aac tat gtg tcc aac aaa gac agg ctg gtg acg gtg aca tac acg 816  
 Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr  
 260 265 270  
 att gtc act cca tta cta aac ccc atg gtt tat agc ctc aga aac aag 864  
 Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys  
 275 280 285  
 gat gtc caa ctt gct atc aga aaa gtg ttg ggc aag aaa ggt tct cta 912  
 Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ser Leu  
 290 295 300  
 aaa cta tat aat tga 927  
 Lys Leu Tyr Asn  
 305

<210> 158  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

<400> 158

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser Ser Leu Gly Glu Ile  
 1 5 10 15

Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu  
 20 25 30

Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu  
 35 40 45

His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr  
 50 55 60

Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser  
 65 70 75 80

Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe  
 85 90 95



Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly  
 100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu  
 115 120 125

Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly  
 130 135 140

Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro  
 145 150 155 160

Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala  
 165 170 175

Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile  
 180 185 190

Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys  
 195 200 205

Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala  
 210 215 220

Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val  
 225 230 235 240

Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr  
 245 250 255

Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr  
 260 265 270

Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys  
 275 280 285

Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ser Leu  
 290 295 300

Lys Leu Tyr Asn  
 305

<210> 159  
 <211> 927  
 <212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (924)

&lt;223&gt;

&lt;400&gt; 159

atg acc atg gaa aat tat tct atg gca gct cag ttt gtc tta gat ggt	48
Met Thr Met Glu Asn Tyr Ser Met Ala Ala Gln Phe Val Leu Asp Gly	
1 5 10 15	

tta aca cag caa gca gag ctc cag ctg ccc ctc ttc ctc ctg ttc ctg	96
Leu Thr Gln Gln Ala Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu	
20 25 30	

gga atc tat gtg gtc aca gta gtg ggc aac ctg ggc atg att ctc ctg	144
Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Leu Leu	
35 40 45	

att gca gtc agc cct cta ctt cac acc ccc atg tac tat ttc ctc agc	192
Ile Ala Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser	
50 55 60	

agc ttg tcc ttc gtc gat ttc tgc tat tcc tct gtc att act ccc aaa	240
Ser Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys	
65 70 75 80	

atg ctg gtg aac ttc cta gga aag aag aat aca atc ctt tac tct gag	288
Met Leu Val Asn Phe Leu Gly Lys Lys Asn Thr Ile Leu Tyr Ser Glu	
85 90 95	

tgc atg gtc cag ctc ttt ttc ttt gtg gtc ttt gtg gtg gct gag ggt	336
Cys Met Val Gln Leu Phe Phe Phe Val Val Phe Val Val Ala Glu Gly	
100 105 110	

tac ctc ctg act gcc atg gca tat gat cgc tat gtt gcc atc tgt agc	384
Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	

cca ctg ctt tat aat gcg atc atg tcc tca tgg gtc tgc tca ctg cta	432
Pro Leu Leu Tyr Asn Ala Ile Met Ser Ser Trp Val Cys Ser Leu Leu	
130 135 140	

gtg ctg gct gcc ttc ttc ttg ggc ttt ctc tct gcc ttg act cat aca	480
Val Leu Ala Ala Phe Phe Leu Gly Phe Leu Ser Ala Leu Thr His Thr	
145 150 155 160	

agt gcc atg atg aaa ctg tcc ttt tgc aaa tcc cac att atc aac cat	528
Ser Ala Met Met Lys Leu Ser Phe Cys Lys Ser His Ile Ile Asn His	
165 170 175	

tac ttc tgt gat gtt ctt ccc ctc ctc aat ctc tcc tgc tcc aac aca	576
Tyr Phe Cys Asp Val Leu Pro Leu Leu Asn Leu Ser Cys Ser Asn Thr	
180 185 190	

cac ctc aat gag ctt cta ctt ttt atc att gcg ggg ttt aac acc ttg	624
His Leu Asn Glu Leu Leu Leu Phe Ile Ile Ala Gly Phe Asn Thr Leu	
195 200 205	

gtg ccc acc cta gct gtt gct gtc tcc tat gcc ttc atc ctc tac agc 672  
Val Pro Thr Leu Ala Val Ala Val Ser Tyr Ala Phe Ile Leu Tyr Ser  
210 215 220

atc ctt cac atc cgc tcc tca gag ggc cgg tcc aaa gct ttt gga aca 720  
Ile Leu His Ile Arg Ser Ser Glu Gly Arg Ser Lys Ala Phe Gly Thr  
225 230 235 240

tgc agc tct cat ctc atg gct gtg gtg atc ttc ttt ggg tcc att acc 768  
Cys Ser Ser His Leu Met Ala Val Val Ile Phe Phe Gly Ser Ile Thr  
245 250 255

ttc atg tat ttc aag ccc cct tca agt aac tcc ctg gac cag gag aag 816  
Phe Met Tyr Phe Lys Pro Pro Ser Ser Asn Ser Leu Asp Gln Glu Lys  
260 265 270

gtg tcc tct gtg ttc tac acc acg gtg atc ccc atg ctg aac cct tta 864  
Val Ser Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu  
275 280 285

ata tac agt ctg agg aat aag gat gtg aag aaa gca tta agg aag gtc 912  
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Arg Lys Val  
290 295 300

tta gta gga aaa tga 927  
Leu Val Gly Lys  
305

<210> 160  
<211> 308  
<212> PRT  
<213> Homo Sapiens

<400> 160

Met Thr Met Glu Asn Tyr Ser Met Ala Ala Gln Phe Val Leu Asp Gly  
1 5 10 15

Leu Thr Gln Gln Ala Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
20 25 30

Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Leu Leu  
35 40 45

Ile Ala Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60

Ser Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80

Met Leu Val Asn Phe Leu Gly Lys Lys Asn Thr Ile Leu Tyr Ser Glu  
85 90 95

Cys Met Val Gln Leu Phe Phe Phe Val Val Phe Val Val Ala Glu Gly

100	105	110
Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser 115 120 125		
Pro Leu Leu Tyr Asn Ala Ile Met Ser Ser Trp Val Cys Ser Leu Leu 130 135 140		
Val Leu Ala Ala Phe Phe Leu Gly Phe Leu Ser Ala Leu Thr His Thr 145 150 155 160		
Ser Ala Met Met Lys Leu Ser Phe Cys Lys Ser His Ile Ile Asn His 165 170 175		
Tyr Phe Cys Asp Val Leu Pro Leu Leu Asn Leu Ser Cys Ser Asn Thr 180 185 190		
His Leu Asn Glu Leu Leu Leu Phe Ile Ile Ala Gly Phe Asn Thr Leu 195 200 205		
Val Pro Thr Leu Ala Val Ala Val Ser Tyr Ala Phe Ile Leu Tyr Ser 210 215 220		
Ile Leu His Ile Arg Ser Ser Glu Gly Arg Ser Lys Ala Phe Gly Thr 225 230 235 240		
Cys Ser Ser His Leu Met Ala Val Val Ile Phe Phe Gly Ser Ile Thr 245 250 255		
Phe Met Tyr Phe Lys Pro Pro Ser Ser Asn Ser Leu Asp Gln Glu Lys 260 265 270		
Val Ser Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu 275 280 285		
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Arg Lys Val 290 295 300		
Leu Val Gly Lys 305		

<210> 161  
 <211> 915  
 <212> DNA  
 <213> Homo Sapiens

<220>

&lt;221&gt; CDS

&lt;222&gt; (1)..(912)

&lt;223&gt;

&lt;400&gt; 161

atg ctg gct aga aac aac tcc tta gtg act gaa ttt att ctt gct gga	48
Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly	
1 5 10 15	
tta aca gat cat cca gag ttc cag caa ccc ctc ttt ttc ctg ttt cta	96
Leu Thr Asp His Pro Glu Phe Gln Gln Pro Leu Phe Phe Leu Phe Leu	
20 25 30	
gtg gtc tac att gtc acc atg gta ggc aac ctt ggc ttg atc att ctt	144
Val Val Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu	
35 40 45	
ttc ggt cta aat tct cac ctc cac aca cca atg tac tat ttc ctc ttc	192
Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe	
50 55 60	
aat ctc tcc ttc att gat ctc tgt tac tcc tct gtt ttc act ccc aaa	240
Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys	
65 70 75 80	
atg cta atg aac ttt gta tca aaa aag aat att atc tcc tat gtt ggg	288
Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly	
85 90 95	
tgc atg act cag ctg ttt ttc ttt ctc ttt ttt gtc atc tct gaa tgt	336
Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys	
100 105 110	
tac atg ttg acc tca atg gca tat gat cgc tat gtg gcc atc tgt aat	384
Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cca ttg ctg tat aag gtc acc atg tcc cat cag gtc tgt tct atg ctc	432
Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu	
130 135 140	
act ttt gct gct tac ata atg gga ttg gct gga gcc acg gcc cac acc	480
Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr	
145 150 155 160	
ggg tgc atg ctt aga ctc acc ttc tgc agt gct aat atc atc aac cat	528
Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His	
165 170 175	
tac ttg tgt gac ata ctc ccc ctc ctc cag ctt tcc tgc acc agc acc	576
Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr	
180 185 190	
tat gtc aac gag gtg gtt gtt ctc att gtt gtg ggt att aat atc atg	624
Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met	
195 200 205	
gta ccc agt tgt acc atc ctc att tct tat gtt ttc att gtc act agc	672
Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser	
210 215 220	

att ctt cat atc aaa tcc act caa gga aga tca aaa gcc ttc agt act 720  
 Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

tgt agc tct cat gtc att gct ctg tct ctg ttt ttt ggg tca gcg gca 768  
 Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
 245 250 255

ttc atg tat att aaa tat tct tct gga tct atg gag cag gga aaa gtt 816  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
 260 265 270

tct tct gtt ttc tac act aat gtg gtg ccc atg ctc aat cct ctc atc 864  
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
 275 280 285

tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa gct ctg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
 290 295 300

att 915

<210> 162  
 <211> 304  
 <212> PRT  
 <213> Homo Sapiens

<400> 162

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly  
 1 5 10 15

Leu Thr Asp His Pro Glu Phe Gln Gln Pro Leu Phe Phe Leu Phe Leu  
 20 25 30

Val Val Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu  
 35 40 45

Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe  
 50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys  
 65 70 75 80

Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly  
 85 90 95

Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys  
 100 105 110

Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu  
 130 135 140

Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr  
 145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His  
 165 170 175

Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr  
 180 185 190

Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met  
 195 200 205

Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser  
 210 215 220

Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
 245 250 255

Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
 260 265 270

Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
 290 295 300

<210> 163  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (939)  
 <223>

<400> 163  
 atg ctg gct aga aac aac tcc tta gtg act gaa ttt att ctt gct gga  
 Met Leu Ala Arg Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly  
 1 5 10 15

48

tta	aca	gat	cat	cca	gag	ttc	cgg	caa	ccc	ctc	ttt	ttc	ctg	ttt	cta	96
Leu	Thr	Asp	His	Pro	Glu	Phe	Arg	Gln	Pro	Leu	Phe	Phe	Leu	Phe	Leu	
			20					25					30			
gtg	atc	tac	att	gtc	acc	atg	gta	ggc	aac	ctt	ggc	ttg	atc	act	ctt	144
Val	Ile	Tyr	Ile	Val	Thr	Met	Val	Gly	Asn	Leu	Gly	Leu	Ile	Thr	Leu	
		35					40					45				
ttc	ggg	cta	aat	tct	cac	ctc	cac	aca	cca	atg	tac	tat	ttc	ctc	ttc	192
Phe	Gly	Leu	Asn	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Tyr	Phe	Leu	Phe	
	50						55				60					
aat	ctc	tcc	ttc	att	gat	ctc	tgt	tac	tcc	tct	gtt	ttc	act	ccc	aaa	240
Asn	Leu	Ser	Phe	Ile	Asp	Leu	Cys	Tyr	Ser	Ser	Val	Phe	Thr	Pro	Lys	
65					70				75					80		
atg	cta	atg	aac	ttt	gtg	tca	aaa	aag	aat	att	atc	tcc	aat	gtt	ggg	288
Met	Leu	Met	Asn	Phe	Val	Ser	Lys	Lys	Asn	Ile	Ile	Ser	Asn	Val	Gly	
			85						90					95		
tgc	atg	act	cgg	ctg	ttt	ttc	ttt	ctc	ttt	ttc	gtc	atc	tct	gaa	tgt	336
Cys	Met	Thr	Arg	Leu	Phe	Phe	Phe	Leu	Phe	Phe	Val	Ile	Ser	Glu	Cys	
			100					105					110			
tac	atg	ttg	act	tca	atg	gca	tat	gat	cgc	tat	gtg	gcc	atc	tgt	aat	384
Tyr	Met	Leu	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	
		115					120					125				
cca	ttg	ctg	tat	aag	gtc	acc	atg	tcc	cat	cag	gtc	tgt	tct	atg	ctc	432
Pro	Leu	Leu	Tyr	Lys	Val	Thr	Met	Ser	His	Gln	Val	Cys	Ser	Met	Leu	
	130						135				140					
act	ttt	gct	gct	tac	ata	atg	gga	ttg	gct	gga	gcc	acg	gcc	cac	acc	480
Thr	Phe	Ala	Ala	Tyr	Ile	Met	Gly	Leu	Ala	Gly	Ala	Thr	Ala	His	Thr	
145					150				155					160		
ggg	tgc	atg	ctt	aga	ctc	acc	ttc	tgc	agt	gct	aat	atc	atc	aac	cat	528
Gly	Cys	Met	Leu	Arg	Leu	Thr	Phe	Cys	Ser	Ala	Asn	Ile	Ile	Asn	His	
				165				170						175		
tac	ttg	tgt	gac	ata	ctc	ccc	ctc	ctc	cag	ctt	tcc	tgc	acc	agc	acc	576
Tyr	Leu	Cys	Asp	Ile	Leu	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Thr	Ser	Thr	
			180					185					190			
tat	gtc	aac	gag	gtg	gtt	gtt	ctc	att	gtt	gtg	ggg	act	aat	atc	acg	624
Tyr	Val	Asn	Glu	Val	Val	Val	Leu	Ile	Val	Val	Gly	Thr	Asn	Ile	Thr	
		195					200					205				
gta	ccc	agt	tgt	acc	atc	ctc	att	tct	tat	gtt	ttc	att	gtc	act	agc	672
Val	Pro	Ser	Cys	Thr	Ile	Leu	Ile	Ser	Tyr	Val	Phe	Ile	Val	Thr	Ser	
	210					215					220					
att	ctt	cat	atc	aaa	tcc	act	caa	gga	aga	tca	aaa	gcc	ttc	agt	act	720
Ile	Leu	His	Ile	Lys	Ser	Thr	Gln	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr	
225					230				235					240		
tgt	agc	tct	cat	gtc	att	gct	ctg	tct	ctg	ttt	ttt	ggg	tca	gcg	gca	768
Cys	Ser	Ser	His	Val	Ile	Ala	Leu	Ser	Leu	Phe	Phe	Gly	Ser	Ala	Ala	
				245					250					255		



ttc atg tat att aaa tat tct tct gga tct atg gag cag gga aaa gtt 816  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
                   260                                  265                                  270

tct tct gtt ttc tac act aat gtg gtg ccc atg ctc aat ccc ctc atc 864  
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
                   275                                  280                                  285

tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa gct ctg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
                   290                                  295                                  300

att aaa att cag agg aga aat ata ttc taa 942  
 Ile Lys Ile Gln Arg Arg Asn Ile Phe  
                   305                                  310

<210> 164

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 164

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly  
 1                                  5                                  10                                  15

Leu Thr Asp His Pro Glu Phe Arg Gln Pro Leu Phe Phe Leu Phe Leu  
                   20                                  25                                  30

Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Thr Leu  
                   35                                  40                                  45

Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe  
                   50                                  55                                  60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys  
 65                                  70                                  75                                  80

Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Asn Val Gly  
                   85                                  90                                  95

Cys Met Thr Arg Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys  
                   100                                  105                                  110

Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
                   115                                  120                                  125

Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu  
                   130                                  135                                  140

Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr

145                                      150                                      155                                      160  
 Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His  
    165                                      170                                      175  
 Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr  
    180                                      185                                      190  
 Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Thr Asn Ile Thr  
    195                                      200                                      205  
 Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser  
    210                                      215                                      220  
 Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
 225                                      230                                      235                                      240  
 Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
    245                                      250                                      255  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
    260                                      265                                      270  
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
    275                                      280                                      285  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
    290                                      295                                      300  
 Ile Lys Ile Gln Arg Arg Asn Ile Phe  
 305                                      310

<210> 165  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

<400> 165  
 atg act ctg aga aac agc tcc tca gtg act gag ttt atc ctt gtg gga 48  
 Met Thr Leu Arg Asn Ser Ser Ser Val Thr Glu Phe Ile Leu Val Gly  
 1                                      5                                      10                                      15  
 tta tca gaa cag cca gag ctc cag ctc cct ctt ttc ctt cta ttc tta 96  
 Leu Ser Glu Gln Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu

20	25	30	
ggg atc tat gtg ttc act gtg gtg ggc aac ttg ggc ttg atc acc tta Gly Ile Tyr Val Phe Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu 35 40 45			144
att ggg ata aat cct agc ctt cac acc ccc atg tac ttt ttc ctc ttc Ile Gly Ile Asn Pro Ser Leu His Thr Pro Met Tyr Phe Phe Leu Phe 50 55 60			192
aac ttg tcc ttt ata gat ctc tgt tat tcc tgt gtg ttt acc ccc aaa Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Cys Val Phe Thr Pro Lys 65 70 75 80			240
atg ctg aat gac ttt gtt tca gaa agt atc atc tct tat gtg gga tgt Met Leu Asn Asp Phe Val Ser Glu Ser Ile Ile Ser Tyr Val Gly Cys 85 90 95			288
atg act cag cta ttt ttc ttc tgt ttc ttt gtc aat tct gag tgc tat Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Asn Ser Glu Cys Tyr 100 105 110			336
gtg ttg gta tca atg gcc tat gat cgc tat gtg gcc atc tgc aac ccc Val Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro 115 120 125			384
ctg ctc tac atg gtc acc atg tcc cca agg gtc tgc ttt ctg ctg atg Leu Leu Tyr Met Val Thr Met Ser Pro Arg Val Cys Phe Leu Leu Met 130 135 140			432
ttt ggt tcc tat gtg gta ggg ttt gct ggg gcc atg gcc cac act gga Phe Gly Ser Tyr Val Val Gly Phe Ala Gly Ala Met Ala His Thr Gly 145 150 155 160			480
agc atg ctg cga ctg acc ttc tgt gat tcc aac gtc att gac cat tat Ser Met Leu Arg Leu Thr Phe Cys Asp Ser Asn Val Ile Asp His Tyr 165 170 175			528
ctg tgt gac gtt ctc ccc ctc ttg cag ctc tcc tgc acc agc acc cat Leu Cys Asp Val Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr His 180 185 190			576
gtc agt gag ctg gta ttt ttc att gtt gtt gga gta atc acc atg cta Val Ser Glu Leu Val Phe Phe Ile Val Val Gly Val Ile Thr Met Leu 195 200 205			624
tcc agc ata agc atc gtc atc tct tac gct ttg ata ctc tcc aac atc Ser Ser Ile Ser Ile Val Ile Ser Tyr Ala Leu Ile Leu Ser Asn Ile 210 215 220			672
ctc tgt att cct tct gca gag ggc aga tcc aaa gcc ttt agc aca tgg Leu Cys Ile Pro Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Trp 225 230 235 240			720
ggc tcc cac ata att gct gtt gct ctg ttt ttt ggg tca ggg aca ttc Gly Ser His Ile Ile Ala Val Ala Leu Phe Phe Gly Ser Gly Thr Phe 245 250 255			768
acc tac tta aca aca tct ttt cct ggc tct atg aac cat ggc aga ttt Thr Tyr Leu Thr Thr Ser Phe Pro Gly Ser Met Asn His Gly Arg Phe 260 265 270			816

gcc tca gtc ttt tac acc aat gtg gtt ccc atg ctt aac cct tcg atc 864  
 Ala Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Ser Ile  
           275                                  280                                  285

tac agt ttg agg aat aag gat gat aaa ctt gcc ctg ggc aaa acc ctg 912  
 Tyr Ser Leu Arg Asn Lys Asp Asp Lys Leu Ala Leu Gly Lys Thr Leu  
           290                                  295                                  300

aag aga gtg ctc ttc taa 930  
 Lys Arg Val Leu Phe  
 305

<210> 166

<211> 309

<212> PRT

<213> Homo Sapiens

<400> 166

Met Thr Leu Arg Asn Ser Ser Ser Val Thr Glu Phe Ile Leu Val Gly  
 1                                  5                                  10                                  15

Leu Ser Glu Gln Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
           20                                  25                                  30

Gly Ile Tyr Val Phe Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu  
           35                                  40                                  45

Ile Gly Ile Asn Pro Ser Leu His Thr Pro Met Tyr Phe Phe Leu Phe  
           50                                  55                                  60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Cys Val Phe Thr Pro Lys  
           65                                  70                                  75                                  80

Met Leu Asn Asp Phe Val Ser Glu Ser Ile Ile Ser Tyr Val Gly Cys  
           85                                  90                                  95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Asn Ser Glu Cys Tyr  
           100                                  105                                  110

Val Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
           115                                  120                                  125

Leu Leu Tyr Met Val Thr Met Ser Pro Arg Val Cys Phe Leu Leu Met  
           130                                  135                                  140

Phe Gly Ser Tyr Val Val Gly Phe Ala Gly Ala Met Ala His Thr Gly  
           145                                  150                                  155                                  160



Gly	Met	Tyr	Leu	Thr	Thr	Val	Leu	Gly	Asn	Leu	Leu	Ile	Met	Leu	Leu		
	35						40					45					
atc	cag	cta	gac	tct	cac	ctt	cac	acc	ccc	atg	tac	ttc	ttc	ctt	agc	192	
Ile	Gln	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser		
	50					55				60							
cac	ttg	gcc	ctc	act	gac	atc	tcc	ttt	tca	tct	gtc	act	gtc	cct	aag	240	
His	Leu	Ala	Leu	Thr	Asp	Ile	Ser	Phe	Ser	Ser	Val	Thr	Val	Pro	Lys		
65					70				75					80			
atg	ctg	atg	aac	atg	cag	act	cag	cac	cta	gcc	gtc	ttt	tac	aag	gga	288	
Met	Leu	Met	Asn	Met	Gln	Thr	Gln	His	Leu	Ala	Val	Phe	Tyr	Lys	Gly		
				85					90					95			
tgc	att	tca	cag	aca	tat	ttt	ttc	ata	ttt	ttt	gct	gac	tta	gac	agt	336	
Cys	Ile	Ser	Gln	Thr	Tyr	Phe	Phe	Ile	Phe	Phe	Ala	Asp	Leu	Asp	Ser		
			100					105					110				
ttc	ctt	atc	act	tca	atg	gca	tat	gac	agg	tat	gtg	gcc	atc	tgt	cat	384	
Phe	Leu	Ile	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His		
		115					120					125					
cct	cta	cat	tat	gcc	acc	atc	atg	act	cag	agc	cag	tgt	gtc	atg	ctg	432	
Pro	Leu	His	Tyr	Ala	Thr	Ile	Met	Thr	Gln	Ser	Gln	Cys	Val	Met	Leu		
	130					135					140						
gtg	gct	ggg	tcc	tgg	gtc	atc	gct	tgt	gcg	tgt	gct	ctt	ttg	cat	acc	480	
Val	Ala	Gly	Ser	Trp	Val	Ile	Ala	Cys	Ala	Cys	Ala	Leu	Leu	His	Thr		
145					150				155					160			
ctc	ctc	ctg	gcc	cag	ctt	tcc	ttc	tgt	gct	gac	cac	atc	atc	cct	cac	528	
Leu	Leu	Leu	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Asp	His	Ile	Ile	Pro	His		
				165				170						175			
tac	ttc	tgt	gac	ctt	ggt	gcc	ctg	ctc	aag	ttg	tcc	tgc	tca	gac	acc	576	
Tyr	Phe	Cys	Asp	Leu	Gly	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Ser	Asp	Thr		
			180					185					190				
tcc	ctc	aat	cag	tta	gca	atc	ttt	aca	gca	gca	ttg	aca	gcc	att	atg	624	
Ser	Leu	Asn	Gln	Leu	Ala	Ile	Phe	Thr	Ala	Ala	Leu	Thr	Ala	Ile	Met		
		195					200					205					
ctt	cca	ttc	ctg	tgc	atc	ctg	gtt	tct	tat	ggt	cac	att	ggg	gtc	acc	672	
Leu	Pro	Phe	Leu	Cys	Ile	Leu	Val	Ser	Tyr	Gly	His	Ile	Gly	Val	Thr		
	210					215					220						
atc	ctc	cag	att	ccc	tct	acc	aag	ggc	ata	tgc	aaa	gcc	ttg	tcc	act	720	
Ile	Leu	Gln	Ile	Pro	Ser	Thr	Lys	Gly	Ile	Cys	Lys	Ala	Leu	Ser	Thr		
225					230				235					240			
tgt	gga	tcc	cac	ctc	tca	gtg	gtg	act	atc	tat	tat	cgg	aca	att	att	768	
Cys	Gly	Ser	His	Leu	Ser	Val	Val	Thr	Ile	Tyr	Tyr	Arg	Thr	Ile	Ile		
				245				250						255			
ggt	ctc	tat	ttt	ctt	ccc	cca	tcc	agc	aac	acc	aat	gac	aag	aac	ata	816	
Gly	Leu	Tyr	Phe	Leu	Pro	Pro	Ser	Ser	Asn	Thr	Asn	Asp	Lys	Asn	Ile		
			260					265					270				
att	gct	tca	gtg	ata	tac	aca	gca	gtc	act	ccc	atg	ttg	aac	cca	ttc	864	
Ile	Ala	Ser	Val	Ile	Tyr	Thr	Ala	Val	Thr	Pro	Met	Leu	Asn	Pro	Phe		

275                      280                      285  
 att tac agt ctg aga aat aaa gac att aag gga gcc cta aga aaa ctc                      912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Gly Ala Leu Arg Lys Leu  
     290                      295                      300  
 ttg agt agg tca ggc gca gtg gct cat gcc tgt aat ctc agc act ttg                      960  
 Leu Ser Arg Ser Gly Ala Val Ala His Ala Cys Asn Leu Ser Thr Leu  
     305                      310                      315                      320  
 gga ggc tga                      969  
 Gly Gly

<210> 168  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 168

Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly  
     1                      5                      10                      15  
 Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Ala Leu Phe Leu  
                     20                      25                      30  
 Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu  
             35                      40                      45  
 Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
     50                      55                      60  
 His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys  
     65                      70                      75                      80  
 Met Leu Met Asn Met Gln Thr Gln His Leu Ala Val Phe Tyr Lys Gly  
                     85                      90                      95  
 Cys Ile Ser Gln Thr Tyr Phe Phe Ile Phe Phe Ala Asp Leu Asp Ser  
             100                      105                      110  
 Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
             115                      120                      125  
 Pro Leu His Tyr Ala Thr Ile Met Thr Gln Ser Gln Cys Val Met Leu  
     130                      135                      140  
 Val Ala Gly Ser Trp Val Ile Ala Cys Ala Cys Ala Leu Leu His Thr  
     145                      150                      155                      160

Leu Leu Leu Ala Gln Leu Ser Phe Cys Ala Asp His Ile Ile Pro His  
 165 170 175

Tyr Phe Cys Asp Leu Gly Ala Leu Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190

Ser Leu Asn Gln Leu Ala Ile Phe Thr Ala Ala Leu Thr Ala Ile Met  
 195 200 205

Leu Pro Phe Leu Cys Ile Leu Val Ser Tyr Gly His Ile Gly Val Thr  
 210 215 220

Ile Leu Gln Ile Pro Ser Thr Lys Gly Ile Cys Lys Ala Leu Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Thr Ile Tyr Tyr Arg Thr Ile Ile  
 245 250 255

Gly Leu Tyr Phe Leu Pro Pro Ser Ser Asn Thr Asn Asp Lys Asn Ile  
 260 265 270

Ile Ala Ser Val Ile Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Gly Ala Leu Arg Lys Leu  
 290 295 300

Leu Ser Arg Ser Gly Ala Val Ala His Ala Cys Asn Leu Ser Thr Leu  
 305 310 315 320

Gly Gly

<210> 169  
 <211> 972  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(969)  
 <223>

<400> 169  
 atg tgg cag aag aat cag acc tct ctg gca gac ttc atc ctt gag ggg  
 Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly  
 1 5 10 15

48



ctc ttc gat gac tcc ctt acc cac ctt ttc ctt ttc tcc ttg acc atg Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met	96
20 25 30	
gtg gtc ttc ctt att gcg gtg agt ggc aac acc ctc acc att ctc ctc Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu	144
35 40 45	
atc tgc att gat ccc cag ctt cat aca cca atg tat ttc ctg ctc agc Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser	192
50 55 60	
cag ctc tcc ctc atg gat ctg atg cat gtc tcc aca atc atc ctg aag Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys	240
65 70 75 80	
atg gct acc aac tac cta tct ggc aag aaa tct atc tcc ttt gtg ggc Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly	288
85 90 95	
tgt gca acc cag cac ttc ctc tat ttg tgt cta ggt ggt gct gaa tgt Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys	336
100 105 110	
ttt ctc tta gct gtc atg tcc tat gac cgc tat gtt gcc atc tgt cat Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His	384
115 120 125	
cca ctg cgc tat gct gtg ctc atg aac aag aag gtg gga ctg atg atg Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met	432
130 135 140	
gct gtc atg tca tgg ttg ggg gca tcc gtg aac tcc cta att cac atg Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met	480
145 150 155 160	
gcg atc ttg atg cac ttc cct ttc tgt ggg cct cgg aaa gtc tac cac Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His	528
165 170 175	
ttc tac tgt gag ttc cca gct gtt gtg aag ttg gta tgt ggc gac atc Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile	576
180 185 190	
act gtg tat gag acc aca gtg tac atc agc agc att ctc ctc ctc ctc Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu	624
195 200 205	
ccc atc ttc ctg att tct aca tcc tat gtc ttc atc ctt caa agt gtc Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val	672
210 215 220	
att cag atg cgc tca tct ggg agc aag aga aat gcc ttt gcc act tgt Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys	720
225 230 235 240	
ggc tcc cac ctc acg gtg gtt tct ctt tgg ttt ggt gcc tgc atc ttc Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe	768
245 250 255	
tcc tac atg aga ccc agg tcc cag tgc act cta ttg cag aac aaa gtt	816

Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val  
 260 265 270

ggg tct gtg ttc tac agc atc att acg ccc aca ttg aat tct ctg att 864  
 Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile  
 275 280 285

tat act ctc cgg aat aaa gat gta gct aag gct ctg aga aga gtg ctg 912  
 Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu  
 290 295 300

agg aga gat gtt atc acc cag tgc att caa cga ctg caa ttg tgg ttg 960  
 Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu  
 305 310 315 320

ccc cga gtg tag 972  
 Pro Arg Val

<210> 170  
 <211> 323  
 <212> PRT  
 <213> Homo Sapiens

<400> 170

Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly  
 1 5 10 15

Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met  
 20 25 30

Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu  
 35 40 45

Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys  
 65 70 75 80

Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly  
 85 90 95

Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys  
 100 105 110

Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met  
 130 135 140

Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met  
 145 150 155 160

Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His  
 165 170 175

Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile  
 180 185 190

Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu  
 195 200 205

Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val  
 210 215 220

Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys  
 225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe  
 245 250 255

Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val  
 260 265 270

Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile  
 275 280 285

Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu  
 290 295 300

Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu  
 305 310 315 320

Pro Arg Val

<210> 171  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (936)  
 <223>

&lt;400&gt; 171

atg gaa gtg gga aat tgc acc atc ctg act gaa ttc atc ttg ttg ggt 48  
 Met Glu Val Gly Asn Cys Thr Ile Leu Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

ttc tca gca gat tcc cag tgg cag ccg att cta ttt gga gtg ttt ctg 96  
 Phe Ser Ala Asp Ser Gln Trp Gln Pro Ile Leu Phe Gly Val Phe Leu  
 20 25 30

atg ctc tat ttg ata acc ttg tca gga aac atg acc ttg gtt atc tta 144  
 Met Leu Tyr Leu Ile Thr Leu Ser Gly Asn Met Thr Leu Val Ile Leu  
 35 40 45

atc cga act gat tcc cac ttg cat aca cct atg tac ttt ttc att ggc 192  
 Ile Arg Thr Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Ile Gly  
 50 55 60

aat ctg tct ttt ttg gat ttc tgg tat acc tct gtg tat acc ccc aaa 240  
 Asn Leu Ser Phe Leu Asp Phe Trp Tyr Thr Ser Val Tyr Thr Pro Lys  
 65 70 75 80

atc ctg gcc agt tgt gtc tca gaa gat aag cgc att tcc ttg gct gga 288  
 Ile Leu Ala Ser Cys Val Ser Glu Asp Lys Arg Ile Ser Leu Ala Gly  
 85 90 95

tgt ggg gct cag ctg ttt ttt tcc tgt gtt gta gcc tac act gaa tgc 336  
 Cys Gly Ala Gln Leu Phe Phe Ser Cys Val Val Ala Tyr Thr Glu Cys  
 100 105 110

tat ctc ctg gca gcc atg gca tat gac cgc cat gca gca att tgt aac 384  
 Tyr Leu Leu Ala Ala Met Ala Tyr Asp Arg His Ala Ala Ile Cys Asn  
 115 120 125

cca ttg ctt tat tca ggt acc atg tcc acc gcc ctc tgt act ggg ctt 432  
 Pro Leu Leu Tyr Ser Gly Thr Met Ser Thr Ala Leu Cys Thr Gly Leu  
 130 135 140

gtt gct ggc tcc tac ata gga gga ttt ttg aat gcc ata gcc cat act 480  
 Val Ala Gly Ser Tyr Ile Gly Gly Phe Leu Asn Ala Ile Ala His Thr  
 145 150 155 160

gcc aat aca ttc cgc ctg cat ttt tgt ggt aaa aat atc att gac cac 528  
 Ala Asn Thr Phe Arg Leu His Phe Cys Gly Lys Asn Ile Ile Asp His  
 165 170 175

ttt ttc tgt gat gca cca cca ttg gta aaa atg tcc tgt aca aac acc 576  
 Phe Phe Cys Asp Ala Pro Pro Leu Val Lys Met Ser Cys Thr Asn Thr  
 180 185 190

agg gtc tac gaa aaa gtc ctg ctt ggt gtg gtg ggc ttc aca gta ctc 624  
 Arg Val Tyr Glu Lys Val Leu Leu Gly Val Val Gly Phe Thr Val Leu  
 195 200 205

tcc agc att ctt gct atc ctg att tcc tat gtc aac atc ctc ctg gct 672  
 Ser Ser Ile Leu Ala Ile Leu Ile Ser Tyr Val Asn Ile Leu Leu Ala  
 210 215 220

atc ctg aga atc cac tca gct tca gga aga cac aag gca ttc tcc acc 720  
 Ile Leu Arg Ile His Ser Ala Ser Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gct tcc cac ctc atc tca gtc atg ctc ttc tat gga tca ttg ttg 768  
 Cys Ala Ser His Leu Ile Ser Val Met Leu Phe Tyr Gly Ser Leu Leu  
                   245                                  250                                  255

ttt atg tat tca agg cct agt tcc acc tac tcc cta gag agg gac aaa 816  
 Phe Met Tyr Ser Arg Pro Ser Ser Thr Tyr Ser Leu Glu Arg Asp Lys  
                   260                                  265                                  270

gta gct gct ctg ttc tac acc gtg atc aac cca ctg ctc aac cct ctc 864  
 Val Ala Ala Leu Phe Tyr Thr Val Ile Asn Pro Leu Leu Asn Pro Leu  
                   275                                  280                                  285

atc tat agc ctg aga aac aaa gat atc aaa gag gcc ttc agg aaa gca 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Glu Ala Phe Arg Lys Ala  
                   290                                  295                                  300

aca cag act ata caa cca caa aca tga 939  
 Thr Gln Thr Ile Gln Pro Gln Thr  
 305                                  310

<210> 172

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 172

Met Glu Val Gly Asn Cys Thr Ile Leu Thr Glu Phe Ile Leu Leu Gly  
 1                  5                                  10                                  15

Phe Ser Ala Asp Ser Gln Trp Gln Pro Ile Leu Phe Gly Val Phe Leu  
                   20                                  25                                  30

Met Leu Tyr Leu Ile Thr Leu Ser Gly Asn Met Thr Leu Val Ile Leu  
                   35                                  40                                  45

Ile Arg Thr Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Ile Gly  
                   50                                  55                                  60

Asn Leu Ser Phe Leu Asp Phe Trp Tyr Thr Ser Val Tyr Thr Pro Lys  
 65                                  70                                  75                                  80

Ile Leu Ala Ser Cys Val Ser Glu Asp Lys Arg Ile Ser Leu Ala Gly  
                   85                                  90                                  95

Cys Gly Ala Gln Leu Phe Phe Ser Cys Val Val Ala Tyr Thr Glu Cys  
                   100                                  105                                  110

Tyr Leu Leu Ala Ala Met Ala Tyr Asp Arg His Ala Ala Ile Cys Asn  
                   115                                  120                                  125

Pro Leu Leu Tyr Ser Gly Thr Met Ser Thr Ala Leu Cys Thr Gly Leu

130                                      135                                      140  
 Val Ala Gly Ser Tyr Ile Gly Gly Phe Leu Asn Ala Ile Ala His Thr  
 145                                      150                                      155                                      160  
 Ala Asn Thr Phe Arg Leu His Phe Cys Gly Lys Asn Ile Ile Asp His  
 165                                      170                                      175  
 Phe Phe Cys Asp Ala Pro Pro Leu Val Lys Met Ser Cys Thr Asn Thr  
 180                                      185                                      190  
 Arg Val Tyr Glu Lys Val Leu Leu Gly Val Val Gly Phe Thr Val Leu  
 195                                      200                                      205  
 Ser Ser Ile Leu Ala Ile Leu Ile Ser Tyr Val Asn Ile Leu Leu Ala  
 210                                      215                                      220  
 Ile Leu Arg Ile His Ser Ala Ser Gly Arg His Lys Ala Phe Ser Thr  
 225                                      230                                      235                                      240  
 Cys Ala Ser His Leu Ile Ser Val Met Leu Phe Tyr Gly Ser Leu Leu  
 245                                      250                                      255  
 Phe Met Tyr Ser Arg Pro Ser Ser Thr Tyr Ser Leu Glu Arg Asp Lys  
 260                                      265                                      270  
 Val Ala Ala Leu Phe Tyr Thr Val Ile Asn Pro Leu Leu Asn Pro Leu  
 275                                      280                                      285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Glu Ala Phe Arg Lys Ala  
 290                                      295                                      300  
 Thr Gln Thr Ile Gln Pro Gln Thr  
 305                                      310

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 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (966)  
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<400> 173  
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 Met Asn Ser Leu Lys His Gly Asn His Thr Ala Leu Thr Gly Phe Ile

1	5	10	15	
cta ttg ggc tta aca gat gat cca atc ctt cga gtc atc ctc ttc atg				96
Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met	20	25	30	
atc atc cta tct ggt aat ctc agc ata att att ctt atc aga att tct				144
Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser	35	40	45	
tct cag ctc cat cat cct atg tat ttc ttt ctg agc cac ttg gct ttt				192
Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe	50	55	60	
gct gac atg gcc tat tca tct tct gtc aca ccc aac atg ctt gta aac				240
Ala Asp Met Ala Tyr Ser Ser Val Thr Pro Asn Met Leu Val Asn	65	70	75	80
ttc ctg gtg gag aga aat aca gtc tcc tac ctt gga tgt gcc atc cag				288
Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln	85	90	95	
ctt ggt tca gcg gct ttc ttt gca aca gtc gaa tgc gtc ctt ctg gct				336
Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala	100	105	110	
gcc atg gcc tat gac cgc ttt gtg gca att tgc agt cca ctg ctt tat				384
Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr	115	120	125	
tca acc aaa atg tcc aca caa gtc agt gtc cag cta ctc tta gta gtt				432
Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val	130	135	140	
tac ata gct ggt ttt ctc att gct gtc tcc tat act act tcc ttc tat				480
Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr	145	150	155	160
ttt tta ctc ttc tgt gga cca aat caa gtc aat cat ttt ttc tgt gat				528
Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp	165	170	175	
ttc gct ccc tta ctt gaa ctc tcc tgt tct gat atc agt gtc tcc aca				576
Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr	180	185	190	
gtt gtt ctc tca ttt tct tct gga tcc atc att gtg gtc act gtg tgt				624
Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys	195	200	205	
gtc ata gcc gtc tgc tac atc tat atc ctc atc acc atc ctg aag atg				672
Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met	210	215	220	
cgc tcc act gag ggg cac cac aag gct ttc tcc acg tgc act tcc cac				720
Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His	225	230	235	240
ctc act gtg gtt acc ctg ttc tat ggg acc att acc ttc att tat gtg				768
Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val	245	250	255	

atg ccc aat ttt agc tac tca act gac cag aac aag gtg gtg tct gtg 816  
 Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
 260 265 270  
 ttg tac aca gtg gtg att ccc atg ttg aac ccc ctg atc tac agc ctc 864  
 Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285  
 agg aac aag gag att aag ggg gct ctg aag aga gag ctt gtt aga aaa 912  
 Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300  
 ata ctt tct cat gat gct tgt tat ttt agt aga act tca aat aat gat 960  
 Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320  
 att aca tag 969  
 Ile Thr

<210> 174  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 174

Met Asn Ser Leu Lys His Gly Asn His Thr Ala Leu Thr Gly Phe Ile  
1 5 10 15

Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met  
20 25 30

Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser  
35 40 45

Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe  
50 55 60

Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn  
65 70 75 80

Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln  
85 90 95

Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala  
100 105 110

Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr  
115 120 125



Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val  
 130 135 140

Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr  
 145 150 155 160

Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp  
 165 170 175

Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr  
 180 185 190

Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys  
 195 200 205

Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met  
 210 215 220

Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His  
 225 230 235 240

Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val  
 245 250 255

Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
 260 265 270

Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285

Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

Ile Thr

<210> 175  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (933)  
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atg ggg act gga aat gac acc act gtg gta gag ttt act ctt ttg ggg      48
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly
1          5          10          15

tta tct gag gat act aca gtt tgt gct att tta ttt ctt gtg ttt cta      96
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu
          20          25          30

gga att tat gtt gtc acc tta atg ggt aat atc agc ata att gta ttg      144
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu
          35          40          45

atc aga aga agt cat cat ctt cat aca ccc atg tac att ttc ctc tgc      192
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys
          50          55          60

cat ttg gcc ttt gta gac att ggg tac tcc tca tca gtc aca cct gtc      240
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val
65          70          75          80

atg ctc atg agc ttc cta agg aaa gaa acc tct ctc cct gtt gct ggt      288
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly
          85          90          95

tgt gtg gcc cag ctc tgt tct gta gtg acg ttt ggt acg gcc gag tgc      336
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys
          100          105          110

ttc ctg ctg gct gcc atg gcc tat gat cgc tat gtg gcc atc tgc tca      384
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser
          115          120          125

ccc ctg ctc tac tct acc tgc atg tcc cct gga gtc tgc atc atc tta      432
Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu
          130          135          140

gtg ggc atg tcc tac ctg ggt gga tgt gtg aat gct tgc aca ttc att      480
Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Cys Thr Phe Ile
145          150          155          160

ggc tgc tta tta aga ctg tcc ttc tgt ggg cca aat aaa gtc aat cac      528
Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His
          165          170          175

ttt ttc tgt gac tat tca cca ctt ttg aag ctt gct tgt tcc cat gat      576
Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp
          180          185          190

ttt act ttt gaa ata att cca gct atc tct tgt gga tct atc att gtg      624
Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Cys Gly Ser Ile Ile Val
          195          200          205

gcc act gtg tgt gtc ata gcc ata tcc tac atc tat atc ctc atc acc      672
Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr
          210          215          220

atc ctg aag atg cac tcc acc aag ggc cgc cac aag gct ttc tcc acg      720
Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr

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225	230	235	240	
tgc acc tcc cac ctc agt gca gtc act gtg tta tat ggg acc atc acc				768
Cys Thr Ser His Leu Ser Ala Val Thr Val Leu Tyr Gly Thr Ile Thr				
245		250	255	
ttc att tat gtg atg ccc aag tcc agc tac tca act gac cag aac aag				816
Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys				
260	265		270	
gtg gtg tct gtg tta tac acc gtg gtg att ccc atg ttg aac ccc ctg				864
Val Val Ser Val Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu				
275	280		285	
atc tac agc ctc agg aac aag gag att aag ggg gct ctg aag aga gag				912
Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu				
290	295	300		
ctt aga ata aaa ata ttt tct tga				936
Leu Arg Ile Lys Ile Phe Ser				
305	310			
<210>	176			
<211>	311			
<212>	PRT			
<213>	Homo Sapiens			
<400>	176			
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly				
1	5	10	15	
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu				
20	25		30	
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu				
35	40		45	
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys				
50	55	60		
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val				
65	70	75	80	
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly				
85	90		95	
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys				
100	105		110	
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser				
115	120	125		

Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu  
 130 135 140

Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Cys Thr Phe Ile  
 145 150 155 160

Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His  
 165 170 175

Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp  
 180 185 190

Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Cys Gly Ser Ile Ile Val  
 195 200 205

Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr  
 210 215 220

Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Thr Ser His Leu Ser Ala Val Thr Val Leu Tyr Gly Thr Ile Thr  
 245 250 255

Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys  
 260 265 270

Val Val Ser Val Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu  
 290 295 300

Leu Arg Ile Lys Ile Phe Ser  
 305 310

<210> 177  
 <211> 1032  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (1029)  
 <223>

<400> 177

atg gct ctt tat ttt tca ctc ata ctc cat ggt atg agt gat ctt ttc Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe 1 5 10 15	48
ttt ctc tct aca ggt cat cca aga gcg agc tgt agg atg gag gcc atg Phe Leu Ser Thr Gly His Pro Arg Ala Ser Cys Arg Met Glu Ala Met 20 25 30	96
aaa cta tta aat caa tct caa gtg tca gaa ttc att ttg ctg gga ctg Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu 35 40 45	144
acc agc tcc cag gat gta gag ttt ctt ctc ttt gcc ctc ttc tcg gtt Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val 50 55 60	192
atc tat gtg gtc aca gtt ttg ggt aac ctt ctt att ata gtc aca gtg Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val 65 70 75 80	240
ttt aac acc cct aac ctg aat act ccc atg tat ttt ctc ctt ggt aat Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn 85 90 95	288
ctc tct ttt gta gat atg acc ctt gct tct ttt gcc acc cct aag gtg Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val 100 105 110	336
att ctg aac ttg tta aaa aag cag aag gta att tct ttt gct ggg tgc Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys 115 120 125	384
ttc act cag ata ttt ctc ctt cac tta ctg ggt ggg gtt gaa atg gta Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val 130 135 140	432
ctg ttg gtc tcc atg gct ttt gac aga tat gtg gcc att tgt aag ccc Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro 145 150 155 160	480
cta cac tac atg acc atc atg aac aag aag gta tgt gtt ttg ctt gta Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val 165 170 175	528
gtg acc tca tgg ctc ttg ggt ctc ctt cac tca ggg ttt cag ata cca Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro 180 185 190	576
ttt gct gtg aac ttg ccc ttt tgt ggt ccc aat gtg gta gac agc att Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile 195 200 205	624
ttt tgt gac ctc cct ttg gtt act aag ctt gcc tgt ata gac ata tat Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr 210 215 220	672
ttt gta cag gta gtc att gtt gcc aac agt ggc ata atc tcc ctg agc Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser 225 230 235 240	720
tgt ttc att att ttg ctt atc tcc tac agt ctg atc ctc ata acc att	768

Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile  
 245 250 255  
 aag aac cac tct cct act ggg caa tct aaa gcc cgt tcc act ttg act 816  
 Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr  
 260 265 270  
 gct cac atc aca gtg gtg att ctc ttc ttt ggc cca tgc atc ttt atc 864  
 Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile  
 275 280 285  
 tac att tgg ccc ttc ggc aac cac tct gta gat aag ttc ctt gct gtg 912  
 Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val  
 290 295 300  
 ttt tat acc atc atc act cct atc ttg aat cca att atc tat act ctg 960  
 Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu  
 305 310 315 320  
 aga aac aaa gaa atg aag ata tcc atg aaa aaa ctc tgg aga gct ttt 1008  
 Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe  
 325 330 335  
 gtg aat tct aga gaa gat act tag 1032  
 Val Asn Ser Arg Glu Asp Thr  
 340

<210> 178  
 <211> 343  
 <212> PRT  
 <213> Homo Sapiens

<400> 178

Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe  
 1 5 10 15  
 Phe Leu Ser Thr Gly His Pro Arg Ala Ser Cys Arg Met Glu Ala Met  
 20 25 30  
 Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu  
 35 40 45  
 Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val  
 50 55 60  
 Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val  
 65 70 75 80  
 Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn  
 85 90 95  
 Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val  
 100 105 110

Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys  
 115 120 125

Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val  
 130 135 140

Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro  
 145 150 155 160

Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val  
 165 170 175

Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro  
 180 185 190

Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile  
 195 200 205

Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr  
 210 215 220

Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser  
 225 230 235 240

Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile  
 245 250 255

Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr  
 260 265 270

Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile  
 275 280 285

Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val  
 290 295 300

Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu  
 305 310 315 320

Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe  
 325 330 335

Val Asn Ser Arg Glu Asp Thr  
 340

<210> 179  
 <211> 927  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
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<400> 179  
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 1 5 10 15  
 ctg acc cag tct caa gat gct caa ctt ctg gtc ttt gtg cta gtc tta 96  
 Leu Thr Gln Ser Gln Asp Ala Gln Leu Leu Val Phe Val Leu Val Leu  
 20 25 30  
 att ttc tac ctt atc atc ctc cct gga aat ttc ctc atc att ttc acc 144  
 Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr  
 35 40 45  
 ata aag tca gac cct ggg ctc aca gcc ccc ctc tat ttc ttt ctg ggc 192  
 Ile Lys Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ttg gcc tta ctg gat gca tcc tac tcc ttc att gtg gtt ccc agg 240  
 Asn Leu Ala Leu Leu Asp Ala Ser Tyr Ser Phe Ile Val Val Pro Arg  
 65 70 75 80  
 atg ttg gtg gac ttc ctc tct gag aag aag gta atc tcc tat aga agc 288  
 Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Ser  
 85 90 95  
 tgc atc act cag ctc ttt ttc ttg cat ttt ctt gga gcg gga gag atg 336  
 Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Ala Gly Glu Met  
 100 105 110  
 ttc ctc ctc gtt gtg atg gcc ttt gac cgc tac atc gcc atc tgc cgg 384  
 Phe Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg  
 115 120 125  
 cct tta cac tat tca acc atc atg aac cct aga gcc tgc tat gca tta 432  
 Pro Leu His Tyr Ser Thr Ile Met Asn Pro Arg Ala Cys Tyr Ala Leu  
 130 135 140  
 tgc ttg gtt ctg tgg ctt ggg ggc ttt atc cat tcc att gta caa gta 480  
 Ser Leu Val Leu Trp Leu Gly Gly Phe Ile His Ser Ile Val Gln Val  
 145 150 155 160  
 gcc ctt atc ctg cac ttg cct ttc tgt ggc cca aac cag ctc gat aac 528  
 Ala Leu Ile Leu His Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn  
 165 170 175  
 ttc ttc tgt gat gtt cca cag gtc atc aag ctg gcc tgc acc aat acc 576  
 Phe Phe Cys Asp Val Pro Gln Val Ile Lys Leu Ala Cys Thr Asn Thr  
 180 185 190



ttt gtg gtg gag ctt ctg atg gtc tcc aac agt ggc ctg ctc agc ctc 624  
 Phe Val Val Glu Leu Leu Met Val Ser Asn Ser Gly Leu Leu Ser Leu  
 195 200 205  
 ctg tgc ttc ctg ggc ctt ctg gcc tcc tat gca gtc atc ctc tgt cgt 672  
 Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys Arg  
 210 215 220  
 ata agg gag cac tcc tct gaa gga aag agc aag gct att tcc aca tgc 720  
 Ile Arg Glu His Ser Ser Glu Gly Lys Ser Lys Ala Ile Ser Thr Cys  
 225 230 235 240  
 acc acc cat att atc att ata ttt ctc atg ttt gga cct gct att ttc 768  
 Thr Thr His Ile Ile Ile Ile Phe Leu Met Phe Gly Pro Ala Ile Phe  
 245 250 255  
 atc tac act tgc ccc ttc cag gct ttc cca gct gac aag gta gtt tct 816  
 Ile Tyr Thr Cys Pro Phe Gln Ala Phe Pro Ala Asp Lys Val Val Ser  
 260 265 270  
 ctt ttc cat act gtc atc ttt cct ttg atg aac cct gtt att tat acg 864  
 Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Val Ile Tyr Thr  
 275 280 285  
 ctt cgc aac cag gag gtg aaa gct tcc atg agg aag ttg tta agt caa 912  
 Leu Arg Asn Gln Glu Val Lys Ala Ser Met Arg Lys Leu Leu Ser Gln  
 290 295 300  
 cat atg ttt tgc tga 927  
 His Met Phe Cys  
 305

<210> 180  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

<400> 180

Met Glu Thr Gln Asn Leu Thr Val Val Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15

Leu Thr Gln Ser Gln Asp Ala Gln Leu Leu Val Phe Val Leu Val Leu  
20 25 30

Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr  
35 40 45

Ile Lys Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Phe Phe Leu Gly  
50 55 60

Asn Leu Ala Leu Leu Asp Ala Ser Tyr Ser Phe Ile Val Val Pro Arg  
65 70 75 80

Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Ser

85	90	95
Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Ala Gly Glu Met 100 105 110		
Phe Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg 115 120 125		
Pro Leu His Tyr Ser Thr Ile Met Asn Pro Arg Ala Cys Tyr Ala Leu 130 135 140		
Ser Leu Val Leu Trp Leu Gly Gly Phe Ile His Ser Ile Val Gln Val 145 150 155 160		
Ala Leu Ile Leu His Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn 165 170 175		
Phe Phe Cys Asp Val Pro Gln Val Ile Lys Leu Ala Cys Thr Asn Thr 180 185 190		
Phe Val Val Glu Leu Leu Met Val Ser Asn Ser Gly Leu Leu Ser Leu 195 200 205		
Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys Arg 210 215 220		
Ile Arg Glu His Ser Ser Glu Gly Lys Ser Lys Ala Ile Ser Thr Cys 225 230 235 240		
Thr Thr His Ile Ile Ile Ile Phe Leu Met Phe Gly Pro Ala Ile Phe 245 250 255		
Ile Tyr Thr Cys Pro Phe Gln Ala Phe Pro Ala Asp Lys Val Val Ser 260 265 270		
Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Val Ile Tyr Thr 275 280 285		
Leu Arg Asn Gln Glu Val Lys Ala Ser Met Arg Lys Leu Leu Ser Gln 290 295 300		
His Met Phe Cys 305		
<210> 181		
<211> 930		

<212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

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<400> 181
atg gcc agt aca agt aat gtg act gag ttg att ttc act ggc ctt ttc      48
Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe
1          5          10          15

cag gat cca gct gtg cag agt gta tgc ttt gtg gtg ttt ctc ccc gtg      96
Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val
          20          25          30

tac ctt gcc acg gtg gtg ggc aat ggc ctc atc gtt ctg acg gtc agt      144
Tyr Leu Ala Thr Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser
          35          40          45

atc agc aag agt ctg gat tct ccc atg tac ttc ttc ctt agc tgc ctg      192
Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Cys Leu
          50          55          60

tcc ttg gtg gag atc agt tat tcc tcc act atc gcc cct aaa ttc atc      240
Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile
65          70          75          80

ata gac tta ctt gcc aag att aaa acc atc tct ctg gaa ggc tgt ctg      288
Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu
          85          90          95

act cag ata ttc ttc ttc cac ttc ttt ggg gtt gct gag atc ctt ttg      336
Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu
          100          105          110

att gtg gtg atg gcc tat gat tgc tac gtg gcc att tgc aag cct ctt      384
Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu
          115          120          125

cat tat atg aac att atc agt cgt caa ctg tgt cac ctt ctg gtg gct      432
His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala
          130          135          140

ggg tcc tgg ctg ggg ggc ttt tgt cac tcc ata att cag att ctc gtt      480
Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val
145          150          155          160

atc atc caa ttg ccc ttc tgt ggt ccc aat gtg att gac cac tat ttc      528
Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe
          165          170          175

tgt gac ctc cag cct tta ttc aag ctt gcc tgc act gac acc ttc atg      576
Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr Phe Met
          180          185          190

gag ggg gtt att gtg ttg gcc aac agt gga tta ttc tct gtc ttc tcc      624
Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val Phe Ser
          195          200          205

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ttc ctc atc ttg gtg tcc tct tat att gtc att ctg gtc aac ttg agg 672  
 Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn Leu Arg  
 210 215 220  
  
 aac cat tct gca gag ggg agg cac aaa gcc ctc tcc acc tgt gct tct 720  
 Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ala Ser  
 225 230 235 240  
  
 cac atc aca gtg gtc atc ttg ttt ttt gga cct gct atc ttc ctc tac 768  
 His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe Leu Tyr  
 245 250 255  
  
 atg cga cct tct tcc act ttc act gaa gat aaa ctt gtg gct gta ttc 816  
 Met Arg Pro Ser Ser Thr Phe Thr Glu Asp Lys Leu Val Ala Val Phe  
 260 265 270  
  
 tac acg gtc atc acc ccc atg ctg aac ccc atc att tac aca ctc agg 864  
 Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr Leu Arg  
 275 280 285  
  
 aat gca gag gtg aaa atc gcc ata aga aga ttg tgg agc aaa aag gag 912  
 Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys Lys Glu  
 290 295 300  
  
 aat cca ggg agg gag tga 930  
 Asn Pro Gly Arg Glu  
 305

<210> 182  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 182

Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe  
1 5 10 15

Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val  
20 25 30

Tyr Leu Ala Thr Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser  
35 40 45

Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Cys Leu  
50 55 60

Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile  
65 70 75 80

Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu  
85 90 95

Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu  
 100 105 110

Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala  
 130 135 140

Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val  
 145 150 155 160

Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe  
 165 170 175

Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr Phe Met  
 180 185 190

Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val Phe Ser  
 195 200 205

Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn Leu Arg  
 210 215 220

Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ala Ser  
 225 230 235 240

His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe Leu Tyr  
 245 250 255

Met Arg Pro Ser Ser Thr Phe Thr Glu Asp Lys Leu Val Ala Val Phe  
 260 265 270

Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr Leu Arg  
 275 280 285

Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys Lys Glu  
 290 295 300

Asn Pro Gly Arg Glu  
 305

<210> 183

<211> 918

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (915)

&lt;223&gt;

&lt;400&gt; 183

atg gtt gct	aca aac aat	gtg act	gaa ata	att ttc	gtg gga	ttt tcc	48
Met Val Ala	Thr Asn Asn	Val Thr	Glu Ile	Ile Phe	Val Gly	Phe Ser	
1	5		10		15		

cag aat tgg	agt gag	cag agg	gtc att	tct gtg	atg ttt	ctc ctc	atg	96
Gln Asn Trp	Ser Glu	Gln Arg	Val Ile	Ser Val	Met Phe	Leu Leu	Met	
20			25		30			

tac aca gct	gtt gtg	ctg ggc	aat ggc	ctc att	gtg gtg	acc atc	ctg	144
Tyr Thr Ala	Val Val	Leu Gly	Asn Gly	Leu Ile	Val Val	Thr Ile	Leu	
35		40		45				

gcc agc aaa	gtg ctc	acc tcc	ccc atg	tat ttc	ttt ctc	agc tac	tta	192
Ala Ser Lys	Val Leu	Thr Ser	Pro Met	Tyr Phe	Phe Leu	Ser Tyr	Leu	
50		55		60				

tcc ttt gtg	gag atc	tgc tac	tgt tct	gtc atg	gcc ccc	aag ctt	atc	240
Ser Phe Val	Glu Ile	Cys Tyr	Cys Ser	Val Met	Ala Pro	Lys Leu	Ile	
65		70		75		80		

ttt gac tcc	ttt atc	aag agg	aaa gtc	att tct	ctc aag	ggc tgc	ctc	288
Phe Asp Ser	Phe Ile	Lys Arg	Lys Val	Ile Ser	Leu Lys	Gly Cys	Leu	
	85		90		95			

aca cag atg	ttt tcc	ctc cat	ttc ttt	ggc ggc	act gag	gcc ttt	ctc	336
Thr Gln Met	Phe Ser	Leu His	Phe Phe	Gly Gly	Thr Glu	Ala Phe	Leu	
	100		105		110			

ctg atg gtg	atg gcc	tat gac	cgc tat	gtg gcc	atc tgc	aag ccc	ttg	384
Leu Met Val	Met Ala	Tyr Asp	Arg Tyr	Val Ala	Ile Cys	Lys Pro	Leu	
115		120		125				

cac tac atg	gcc atc	atg aac	cag cga	atg tgt	ggc ctc	ctc ctc	gtg agg	432
His Tyr Met	Ala Ile	Met Asn	Gln Arg	Met Cys	Gly Leu	Leu Val	Arg	
130		135		140				

ata gca tgg	ggc ggg	ggc ctg	ctg cat	tct gtt	ggg caa	acc ttc	ctg	480
Ile Ala Trp	Gly Gly	Gly Leu	Leu His	Ser Val	Gly Gln	Thr Phe	Leu	
145		150		155		160		

att ttc cag	ctc ccg	ttc tgt	ggc ccc	aac atc	atg gac	cac tac	ttc	528
Ile Phe Gln	Leu Pro	Phe Cys	Gly Pro	Asn Ile	Met Asp	His Tyr	Phe	
	165		170		175			

tgt gat gtc	cac cca	gtg ctg	gag ctg	gcc tgc	gca gac	acc ttc	ttc	576
Cys Asp Val	His Pro	Val Leu	Glu Leu	Ala Cys	Ala Asp	Thr Phe	Phe	
	180		185		190			

att agc ctg	ctg atc	atc acc	aat ggc	ggc tcc	atc tcc	gta gtc	agt	624
Ile Ser Leu	Leu Ile	Ile Thr	Asn Gly	Gly Ser	Ile Ser	Val Val	Ser	
195		200		205				

ttc ttc gtg	ctg atg	gct tcc	tac ctg	atc atc	ctg cac	ttc ctg	aga	672
Phe Phe Val	Leu Met	Ala Ser	Tyr Leu	Ile Ile	Leu His	Phe Leu	Arg	

210	215	220	
agc cac aac ttg gag ggg cag cac aag gcc ctc tcc acc tgt gcc tct			720
Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser			
225	230	235	240
cat gtc aca gtt gtc gac ctg ttc ttc ata cct tgc tcc ttg gtc tat			768
His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr			
	245	250	255
att agg ccc tgt gtc acc ctc cct gca gac aag ata gtt gct gta ttt			816
Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe			
	260	265	270
tat aca gtg gtc aca cct ctc tta aac cct gtg att tac tcc ttc agg			864
Tyr Thr Val Val Thr Pro Leu Asn Pro Val Ile Tyr Ser Phe Arg			
	275	280	285
aat gct gaa gtg aaa aat gcc atg agg aga ttt att ggg gga aaa gta			912
Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val			
	290	295	300
att tga			918
Ile			
305			

<210> 184  
 <211> 305  
 <212> PRT  
 <213> Homo Sapiens

<400> 184

Met Val Ala Thr Asn Asn Val Thr Glu Ile Ile Phe Val Gly Phe Ser
1 5 10 15

Gln Asn Trp Ser Glu Gln Arg Val Ile Ser Val Met Phe Leu Leu Met
20 25 30

Tyr Thr Ala Val Val Leu Gly Asn Gly Leu Ile Val Val Thr Ile Leu
35 40 45

Ala Ser Lys Val Leu Thr Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu
50 55 60

Ser Phe Val Glu Ile Cys Tyr Cys Ser Val Met Ala Pro Lys Leu Ile
65 70 75 80

Phe Asp Ser Phe Ile Lys Arg Lys Val Ile Ser Leu Lys Gly Cys Leu
85 90 95

Thr Gln Met Phe Ser Leu His Phe Phe Gly Gly Thr Glu Ala Phe Leu
100 105 110

Leu Met Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Met Ala Ile Met Asn Gln Arg Met Cys Gly Leu Leu Val Arg  
 130 135 140

Ile Ala Trp Gly Gly Gly Leu Leu His Ser Val Gly Gln Thr Phe Leu  
 145 150 155 160

Ile Phe Gln Leu Pro Phe Cys Gly Pro Asn Ile Met Asp His Tyr Phe  
 165 170 175

Cys Asp Val His Pro Val Leu Glu Leu Ala Cys Ala Asp Thr Phe Phe  
 180 185 190

Ile Ser Leu Leu Ile Ile Thr Asn Gly Gly Ser Ile Ser Val Val Ser  
 195 200 205

Phe Phe Val Leu Met Ala Ser Tyr Leu Ile Ile Leu His Phe Leu Arg  
 210 215 220

Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser  
 225 230 235 240

His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr  
 245 250 255

Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe  
 260 265 270

Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val Ile Tyr Ser Phe Arg  
 275 280 285

Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val  
 290 295 300

Ile  
 305

<210> 185  
 <211> 912  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(909)



&lt;223&gt;

&lt;400&gt; 185

atg act gaa ttc att ttt ctg gta ctt tct ccc aac cag gag gtg cag	48
Met Thr Glu Phe Ile Phe Leu Val Leu Ser Pro Asn Gln Glu Val Gln	
1 5 10 15	
agg gtt tgc ttt gtg ata ttt ctg ttc ttg tac aca gca att gtg ctg	96
Arg Val Cys Phe Val Ile Phe Leu Phe Leu Tyr Thr Ala Ile Val Leu	
20 25 30	
ggg aat ttc ctc att gtg ctc act gtc atg acc agc aga agc ctt ggt	144
Gly Asn Phe Leu Ile Val Leu Thr Val Met Thr Ser Arg Ser Leu Gly	
35 40 45	
tcc ccc atg tac ttc ttc ctc agc tac ctc tcc ttc atg gag atc tgc	192
Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu Ser Phe Met Glu Ile Cys	
50 55 60	
tac tcc tcc gct aca gcc ccc aaa ctc atc tca gat ctg ctg gct gaa	240
Tyr Ser Ser Ala Thr Ala Pro Lys Leu Ile Ser Asp Leu Leu Ala Glu	
65 70 75 80	
agg aaa gtc ata tct tgg tgg ggc tgc atg gca cag ctt ttc ttc ttg	288
Arg Lys Val Ile Ser Trp Trp Gly Cys Met Ala Gln Leu Phe Phe Leu	
85 90 95	
cac ttc ttt ggt ggc act gag att ttc ctg ctc act gtg atg gcc tat	336
His Phe Phe Gly Gly Thr Glu Ile Phe Leu Leu Thr Val Met Ala Tyr	
100 105 110	
gac cac tat gtg gcc atc tgc aag ccc ctc agc tac acc acc atc atg	384
Asp His Tyr Val Ala Ile Cys Lys Pro Leu Ser Tyr Thr Thr Ile Met	
115 120 125	
aac tgg cag gtg tgt act gtc ctt gta gga ata gca tgg gtg gga ggc	432
Asn Trp Gln Val Cys Thr Val Leu Val Gly Ile Ala Trp Val Gly Gly	
130 135 140	
ttc atg cat tcc ttt gca caa atc ctt ctc atc ttc cac ctg ctc ttc	480
Phe Met His Ser Phe Ala Gln Ile Leu Leu Ile Phe His Leu Leu Phe	
145 150 155 160	
tgt ggc ccc aat gtg atc aat cac tat ttc tgt gac cta gtt ccc ctt	528
Cys Gly Pro Asn Val Ile Asn His Tyr Phe Cys Asp Leu Val Pro Leu	
165 170 175	
ctc aaa ctt gcc tgc tct gac acc ttc ctc att ggt ctg ctg att gtt	576
Leu Lys Leu Ala Cys Ser Asp Thr Phe Leu Ile Gly Leu Leu Ile Val	
180 185 190	
gcc aat gga ggc acc ctg tct gtg atc agt ttt ggg gtc ctc tta gca	624
Ala Asn Gly Gly Thr Leu Ser Val Ile Ser Phe Gly Val Leu Leu Ala	
195 200 205	
tcc tat atg gtc atc ttg ctc cat ctg aga acc tgg agc tct gaa ggg	672
Ser Tyr Met Val Ile Leu Leu His Leu Arg Thr Trp Ser Ser Glu Gly	
210 215 220	
tgg tgc aaa gcc ctc tcc acc tgt ggg tcc cat ttc gct gtg gtt atc	720

Trp Cys Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ala Val Val Ile  
 225 230 235 240  
 ttg ttc ttt ggg ccc tgc gtc ttc aac tct ctg agg cct tct acc act 768  
 Leu Phe Phe Gly Pro Cys Val Phe Asn Ser Leu Arg Pro Ser Thr Thr  
 245 250 255  
 ctg ccc ata gac aag atg gtg gct gtg ttc tac aca gtg ata acc gcg 816  
 Leu Pro Ile Asp Lys Met Val Ala Val Phe Tyr Thr Val Ile Thr Ala  
 260 265 270  
 atc ctg aac cct gtc atc tac tct ctg aga aat gct gaa atg agg aag 864  
 Ile Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Ala Glu Met Arg Lys  
 275 280 285  
 gcc atg aag agg ctg tgg att agg aca ttg aga cta aat gag aaa tag 912  
 Ala Met Lys Arg Leu Trp Ile Arg Thr Leu Arg Leu Asn Glu Lys  
 290 295 300

<210> 186  
 <211> 303  
 <212> PRT  
 <213> Homo Sapiens

<400> 186

Met Thr Glu Phe Ile Phe Leu Val Leu Ser Pro Asn Gln Glu Val Gln  
 1 5 10 15  
 Arg Val Cys Phe Val Ile Phe Leu Phe Leu Tyr Thr Ala Ile Val Leu  
 20 25 30  
 Gly Asn Phe Leu Ile Val Leu Thr Val Met Thr Ser Arg Ser Leu Gly  
 35 40 45  
 Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu Ser Phe Met Glu Ile Cys  
 50 55 60  
 Tyr Ser Ser Ala Thr Ala Pro Lys Leu Ile Ser Asp Leu Leu Ala Glu  
 65 70 75 80  
 Arg Lys Val Ile Ser Trp Trp Gly Cys Met Ala Gln Leu Phe Phe Leu  
 85 90 95  
 His Phe Phe Gly Gly Thr Glu Ile Phe Leu Leu Thr Val Met Ala Tyr  
 100 105 110  
 Asp His Tyr Val Ala Ile Cys Lys Pro Leu Ser Tyr Thr Thr Ile Met  
 115 120 125  
 Asn Trp Gln Val Cys Thr Val Leu Val Gly Ile Ala Trp Val Gly Gly  
 130 135 140

Phe Met His Ser Phe Ala Gln Ile Leu Leu Ile Phe His Leu Leu Phe  
 145 150 155 160

Cys Gly Pro Asn Val Ile Asn His Tyr Phe Cys Asp Leu Val Pro Leu  
 165 170 175

Leu Lys Leu Ala Cys Ser Asp Thr Phe Leu Ile Gly Leu Leu Ile Val  
 180 185 190

Ala Asn Gly Gly Thr Leu Ser Val Ile Ser Phe Gly Val Leu Leu Ala  
 195 200 205

Ser Tyr Met Val Ile Leu Leu His Leu Arg Thr Trp Ser Ser Glu Gly  
 210 215 220

Trp Cys Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ala Val Val Ile  
 225 230 235 240

Leu Phe Phe Gly Pro Cys Val Phe Asn Ser Leu Arg Pro Ser Thr Thr  
 245 250 255

Leu Pro Ile Asp Lys Met Val Ala Val Phe Tyr Thr Val Ile Thr Ala  
 260 265 270

Ile Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Ala Glu Met Arg Lys  
 275 280 285

Ala Met Lys Arg Leu Trp Ile Arg Thr Leu Arg Leu Asn Glu Lys  
 290 295 300

<210> 187  
 <211> 1044  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (1041)  
 <223>

<400> 187  
 atg ggt aac tgg act gca gcg gtg act gag ttt gtt ctg ctg ggg ttt 48  
 Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe  
 1 5 10 15

tcc ctg agc agg gag gtg gag ctg ctg ctc ctg gtg ctc ctg ctg ccc 96  
 Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro  
 20 25 30

acg ttc ctg ctg act ctt ctg ggg aac ctg ctc atc atc tcc act gtg Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val 35 40 45	144
ctg tcc tgc tcc cgc ctc cac acc ccc atg tac ttc ttc ttg tgc aac Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn 50 55 60	192
ctc tct atc ctg gac atc ctc ttc acc tca gtc atc tct cca aaa gtg Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val 65 70 75 80	240
ttg gcc aac tta gga tct agg gat aaa acc atc tcc ttt gcc gga tgt Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys 85 90 95	288
atc acc cag tgc tat ttc tac ttt ttc ttg ggc aca gtt gag ttc ctc Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu 100 105 110	336
ctg ctg acg gtc atg tcc tat gac cgt tat gcc acc atc tgc tgc ccc Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro 115 120 125	384
ctg cgg tac acc acc atc atg aga cct tct gtc tgc att ggg acc gtt Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val 130 135 140	432
gta ttc tct tgg gtg gga ggc ttc ctg tct gtg ctc ttt cca acc atc Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile 145 150 155 160	480
ctc atc tcc cag ctg ccc ttc tgt ggc tcc aat atc att aac cac ttc Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe 165 170 175	528
ttc tgt gac agt gga ccc ttg ctg gcc ctg gcc tgt gca gac acc act Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr 180 185 190	576
gcc atc gag ctg atg gat ttt atg ctt tct tcc atg gtc atc ctc tgc Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys 195 200 205	624
tgc ata gtc ctc gtg gcc tat tcc tat acg tac atc atc ttg acc ata Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile 210 215 220	672
gtg cgc att cct tct gca agt gga agg aag aag gcc ttt aat acc tgt Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys 225 230 235 240	720
gct tcc cac ctg acc ata gtc atc att cct agt ggc atc act gtg ttt Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe 245 250 255	768
atc tat gtg act ccc tcc cag aaa gaa tat ctg gag atc aac aag atc Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile 260 265 270	816

cct ttg gtt ctg agc agt gtg gtg act cca ttc ctc aac ccc ttt ata 864  
 Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile  
 275 280 285

tat act ctg agg aat gac aca gtg cag gga gtc ctc agg gat gtg tgg 912  
 Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp  
 290 295 300

gtc agg gtt cga gga gtt ttt gaa aag agg atg agg gca gtg ctg aga 960  
 Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg  
 305 310 315 320

agc aga tta tcc tcc aac aaa gac cac caa gga agg gct tgc tct tct 1008  
 Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser  
 325 330 335

cca cca tgt gtc tat tct gta aag ctc cag tgt tag 1044  
 Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys  
 340 345

<210> 188

<211> 347

<212> PRT

<213> Homo Sapiens

<400> 188

Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe  
 1 5 10 15

Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Leu Val Leu Leu Leu Pro  
 20 25 30

Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val  
 35 40 45

Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn  
 50 55 60

Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val  
 65 70 75 80

Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys  
 85 90 95

Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu  
 100 105 110

Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro  
 115 120 125

Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val

130                                      135                                      140  
 Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile  
 145                                      150                                      155                                      160  
 Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe  
                                     165                                      170                                      175  
 Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr  
                                     180                                      185                                      190  
 Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys  
                                     195                                      200                                      205  
 Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile  
                                     210                                      215                                      220  
 Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys  
 225                                      230                                      235                                      240  
 Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe  
                                     245                                      250                                      255  
 Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile  
                                     260                                      265                                      270  
 Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile  
                                     275                                      280                                      285  
 Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp  
                                     290                                      295                                      300  
 Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg  
 305                                      310                                      315                                      320  
 Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser  
                                     325                                      330                                      335  
 Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys  
                                     340                                      345

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 <213> Homo Sapiens

<220>

<221> CDS  
 <222> (1) .. (936)  
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<400> 189  
 atg gat gaa gcc aat cac tct gtg gtc tct gag ttt gtg ttc ctg gga 48  
 Met Asp Glu Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly  
 1 5 10 15

ctc tct gac tcg cgg aag atc cag ctc ctc ctc ttc ctc ttt ttc tca 96  
 Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser  
 20 25 30

gtg ttc tat gta tca agc ctg atg gga aat ctc ctc att gtg cta act 144  
 Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr  
 35 40 45

gtg acc tct gac cct cgt tta cag tcc ccc atg tac ttc ctg ctg gcc 192  
 Val Thr Ser Asp Pro Arg Leu Gln Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60

aac ctt tcc atc atc aat ttg gta ttt tgt tcc tcc aca gct ccc aag 240  
 Asn Leu Ser Ile Ile Asn Leu Val Phe Cys Ser Ser Thr Ala Pro Lys  
 65 70 75 80

atg att tat gac ctt ttc agg aag cac aag acc atc tct ttt ggg ggc 288  
 Met Ile Tyr Asp Leu Phe Arg Lys His Lys Thr Ile Ser Phe Gly Gly  
 85 90 95

tgt gta gtt cag atc ttc ttt atc cat gca gtt ggg gga act gag atg 336  
 Cys Val Val Gln Ile Phe Phe Ile His Ala Val Gly Gly Thr Glu Met  
 100 105 110

gtg ctg ctc ata gcc atg gct ttt gac cga tat gtg gcc ata tgt aag 384  
 Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

cct ctc cac tac ctg acc atc atg aac cca caa agg tgc att ttg ttt 432  
 Pro Leu His Tyr Leu Thr Ile Met Asn Pro Gln Arg Cys Ile Leu Phe  
 130 135 140

tta gtc att tcc tgg att ata ggt att att cac tca gtg att cag ttg 480  
 Leu Val Ile Ser Trp Ile Ile Gly Ile Ile His Ser Val Ile Gln Leu  
 145 150 155 160

gct ttt gtt gta gac ctg ctg ttc tgt ggc cct aat gaa tta gat agt 528  
 Ala Phe Val Val Asp Leu Leu Phe Cys Gly Pro Asn Glu Leu Asp Ser  
 165 170 175

ttc ttt tgt gat ctt cct cga ttt atc aaa ctg gct tgc ata gag acc 576  
 Phe Phe Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Ile Glu Thr  
 180 185 190

tac aca ttg gga ttc atg gtt act gcc aat agt gga ttt att tct ctg 624  
 Tyr Thr Leu Gly Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

gct tct ttt tta att ctc ata atc tct tac atc ttt att ttg gtg act 672  
 Ala Ser Phe Leu Ile Leu Ile Ile Ser Tyr Ile Phe Ile Leu Val Thr  
 210 215 220

gtt cag aaa aaa tct tca ggt ggt ata ttc aag gct ttc tct atg ctg 720  
 Val Gln Lys Lys Ser Ser Gly Gly Ile Phe Lys Ala Phe Ser Met Leu  
 225 230 235 240

tca gct cat gtc att gtg gtg gtt ttg gtc ttt ggg cca tta atc ttt 768  
 Ser Ala His Val Ile Val Val Val Leu Val Phe Gly Pro Leu Ile Phe  
 245 250 255

ttc tat att ttt cca ttt ccc aca tca cat ctt gat aaa ttc ctt gcc 816  
 Phe Tyr Ile Phe Pro Phe Pro Thr Ser His Leu Asp Lys Phe Leu Ala  
 260 265 270

atc ttt gat gca gtt atc act ccc gtt ttg aat cca gtc atc tat act 864  
 Ile Phe Asp Ala Val Ile Thr Pro Val Leu Asn Pro Val Ile Tyr Thr  
 275 280 285

ttt aga aat aaa gag atg atg gtg gca atg aga aga cga tgc tct cag 912  
 Phe Arg Asn Lys Glu Met Met Val Ala Met Arg Arg Arg Cys Ser Gln  
 290 295 300

ttt gtg aat tac agt aaa atc ttt taa 939  
 Phe Val Asn Tyr Ser Lys Ile Phe  
 305 310

<210> 190

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 190

Met Asp Glu Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly  
 1 5 10 15

Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser  
 20 25 30

Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr  
 35 40 45

Val Thr Ser Asp Pro Arg Leu Gln Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60

Asn Leu Ser Ile Ile Asn Leu Val Phe Cys Ser Ser Thr Ala Pro Lys  
 65 70 75 80

Met Ile Tyr Asp Leu Phe Arg Lys His Lys Thr Ile Ser Phe Gly Gly  
 85 90 95

Cys Val Val Gln Ile Phe Phe Ile His Ala Val Gly Gly Thr Glu Met  
 100 105 110



Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu His Tyr Leu Thr Ile Met Asn Pro Gln Arg Cys Ile Leu Phe  
 130 135 140

Leu Val Ile Ser Trp Ile Ile Gly Ile Ile His Ser Val Ile Gln Leu  
 145 150 155 160

Ala Phe Val Val Asp Leu Leu Phe Cys Gly Pro Asn Glu Leu Asp Ser  
 165 170 175

Phe Phe Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Ile Glu Thr  
 180 185 190

Tyr Thr Leu Gly Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

Ala Ser Phe Leu Ile Leu Ile Ile Ser Tyr Ile Phe Ile Leu Val Thr  
 210 215 220

Val Gln Lys Lys Ser Ser Gly Gly Ile Phe Lys Ala Phe Ser Met Leu  
 225 230 235 240

Ser Ala His Val Ile Val Val Val Leu Val Phe Gly Pro Leu Ile Phe  
 245 250 255

Phe Tyr Ile Phe Pro Phe Pro Thr Ser His Leu Asp Lys Phe Leu Ala  
 260 265 270

Ile Phe Asp Ala Val Ile Thr Pro Val Leu Asn Pro Val Ile Tyr Thr  
 275 280 285

Phe Arg Asn Lys Glu Met Met Val Ala Met Arg Arg Arg Cys Ser Gln  
 290 295 300

Phe Val Asn Tyr Ser Lys Ile Phe  
 305 310

<210> 191  
 <211> 996  
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<220>  
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 <222> (1) .. (993)  
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<400> 191  
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 Met Ser Pro Asp Gly Asn His Ser Ser Asp Pro Thr Glu Phe Val Leu  
 1 5 10 15

gca ggg ctc cca aat ctc aac agc gca aga gtg gaa tta ttt tct gtg 96  
 Ala Gly Leu Pro Asn Leu Asn Ser Ala Arg Val Glu Leu Phe Ser Val  
 20 25 30

ttt ctt ctt gtc tat ctc ctg aat ctg aca ggc aat gtg ttg att gtg 144  
 Phe Leu Leu Val Tyr Leu Leu Asn Leu Thr Gly Asn Val Leu Ile Val  
 35 40 45

ggg gtg gta agg gct gat act cga cta cag acc cct atg tac ttc ttt 192  
 Gly Val Val Arg Ala Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe  
 50 55 60

ctg ggt aac ctg tcc tgc cta gag ata ctg ctc act tct gtc atc att 240  
 Leu Gly Asn Leu Ser Cys Leu Glu Ile Leu Leu Thr Ser Val Ile Ile  
 65 70 75 80

cca aag atg ctg agc aat ttc ctc tca agg caa cac act att tcc ttt 288  
 Pro Lys Met Leu Ser Asn Phe Leu Ser Arg Gln His Thr Ile Ser Phe  
 85 90 95

gct gca tgt atc acc caa ttc tat ttc tac ttc ttt ctc ggg gcc tcc 336  
 Ala Ala Cys Ile Thr Gln Phe Tyr Phe Tyr Phe Phe Leu Gly Ala Ser  
 100 105 110

gag ttc tta ctg ttg gct gtc atg tct gcg gat cgc tac ctg gcc atc 384  
 Glu Phe Leu Leu Leu Ala Val Met Ser Ala Asp Arg Tyr Leu Ala Ile  
 115 120 125

tgt cat cct ctg cgc tac ccc ttg ctc atg agt ggg gct gtg tgc ttt 432  
 Cys His Pro Leu Arg Tyr Pro Leu Leu Met Ser Gly Ala Val Cys Phe  
 130 135 140

cgt gtg gcc ttg gcc tgc tgg gtg ggg gga ctc gtc cct gtg ctt ggt 480  
 Arg Val Ala Leu Ala Cys Trp Val Gly Gly Leu Val Pro Val Leu Gly  
 145 150 155 160

ccc aca gtg gct gtg gcc ttg ctt cct ttc tgt aag cag ggt gct gtg 528  
 Pro Thr Val Ala Val Ala Leu Leu Pro Phe Cys Lys Gln Gly Ala Val  
 165 170 175

gta cag cac ttc ttc tgc gac agt ggc cca ctg ctc cgc ctg gct tgc 576  
 Val Gln His Phe Phe Cys Asp Ser Gly Pro Leu Leu Arg Leu Ala Cys  
 180 185 190

acc aac acc aag aag ctg gag gag act gac ttt gtc ctg gcc tcc ctc 624  
 Thr Asn Thr Lys Lys Leu Glu Glu Thr Asp Phe Val Leu Ala Ser Leu  
 195 200 205

gtc att gta tct tcc ttg ctg atc act gct gtg tcc tac ggc ctc att 672  
 Val Ile Val Ser Ser Leu Leu Ile Thr Ala Val Ser Tyr Gly Leu Ile  
 210 215 220

gtg ctg gca gtc ctg agc atc ccc tct gct tca ggc cgt cag aag gcc 720  
 Val Leu Ala Val Leu Ser Ile Pro Ser Ala Ser Gly Arg Gln Lys Ala

225	230	235	240	
ttc tct acc tgt acc tcc cac ttg ata gtg gtg acc ctc ttc tat gga				768
Phe Ser Thr Cys Thr Ser His Leu Ile Val Val Thr Leu Phe Tyr Gly	245	250	255	
agt gcc att ttt ctc tat gtg cgg cca tcg cag agt ggt tct gtg gac				816
Ser Ala Ile Phe Leu Tyr Val Arg Pro Ser Gln Ser Gly Ser Val Asp	260	265	270	
act aac tgg gca gtg aca gta ata acg aca ttt gtg aca cca ctg ttg				864
Thr Asn Trp Ala Val Thr Val Ile Thr Thr Phe Val Thr Pro Leu Leu	275	280	285	
aat cca ttc atc tat gcc tta cgt aat gag caa gtc aag gaa gct ttg				912
Asn Pro Phe Ile Tyr Ala Leu Arg Asn Glu Gln Val Lys Glu Ala Leu	290	295	300	
aag gac atg ttt agg aag gta gtg gca ggc gtt tta ggg aat ctt tta				960
Lys Asp Met Phe Arg Lys Val Val Ala Gly Val Leu Gly Asn Leu Leu	305	310	315	320
ctt gat aaa tgt ctc agt gag aaa gca gta aag taa				996
Leu Asp Lys Cys Leu Ser Glu Lys Ala Val Lys	325	330		
<210> 192				
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<400> 192				
Met Ser Pro Asp Gly Asn His Ser Ser Asp Pro Thr Glu Phe Val Leu				
1	5	10	15	
Ala Gly Leu Pro Asn Leu Asn Ser Ala Arg Val Glu Leu Phe Ser Val				
	20	25	30	
Phe Leu Leu Val Tyr Leu Leu Asn Leu Thr Gly Asn Val Leu Ile Val				
	35	40	45	
Gly Val Val Arg Ala Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe				
	50	55	60	
Leu Gly Asn Leu Ser Cys Leu Glu Ile Leu Leu Thr Ser Val Ile Ile				
65	70	75	80	
Pro Lys Met Leu Ser Asn Phe Leu Ser Arg Gln His Thr Ile Ser Phe				
	85	90	95	
Ala Ala Cys Ile Thr Gln Phe Tyr Phe Tyr Phe Phe Leu Gly Ala Ser				
	100	105	110	

Glu Phe Leu Leu Leu Ala Val Met Ser Ala Asp Arg Tyr Leu Ala Ile  
 115 120 125

Cys His Pro Leu Arg Tyr Pro Leu Leu Met Ser Gly Ala Val Cys Phe  
 130 135 140

Arg Val Ala Leu Ala Cys Trp Val Gly Gly Leu Val Pro Val Leu Gly  
 145 150 155 160

Pro Thr Val Ala Val Ala Leu Leu Pro Phe Cys Lys Gln Gly Ala Val  
 165 170 175

Val Gln His Phe Phe Cys Asp Ser Gly Pro Leu Leu Arg Leu Ala Cys  
 180 185 190

Thr Asn Thr Lys Lys Leu Glu Glu Thr Asp Phe Val Leu Ala Ser Leu  
 195 200 205

Val Ile Val Ser Ser Leu Leu Ile Thr Ala Val Ser Tyr Gly Leu Ile  
 210 215 220

Val Leu Ala Val Leu Ser Ile Pro Ser Ala Ser Gly Arg Gln Lys Ala  
 225 230 235 240

Phe Ser Thr Cys Thr Ser His Leu Ile Val Val Thr Leu Phe Tyr Gly  
 245 250 255

Ser Ala Ile Phe Leu Tyr Val Arg Pro Ser Gln Ser Gly Ser Val Asp  
 260 265 270

Thr Asn Trp Ala Val Thr Val Ile Thr Thr Phe Val Thr Pro Leu Leu  
 275 280 285

Asn Pro Phe Ile Tyr Ala Leu Arg Asn Glu Gln Val Lys Glu Ala Leu  
 290 295 300

Lys Asp Met Phe Arg Lys Val Val Ala Gly Val Leu Gly Asn Leu Leu  
 305 310 315 320

Leu Asp Lys Cys Leu Ser Glu Lys Ala Val Lys  
 325 330

<210> 193  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (942)

&lt;223&gt;

&lt;400&gt; 193

atg	tcg	aat	gag	gac	atg	gaa	cag	gat	aat	aca	aca	ttg	ctg	aca	gag	48
Met	Ser	Asn	Glu	Asp	Met	Glu	Gln	Asp	Asn	Thr	Thr	Leu	Leu	Thr	Glu	
1			5					10					15			

ttt	ggt	ctc	aca	gga	ctt	aca	tat	cag	cca	gag	tgg	aaa	atg	ccc	ctg	96
Phe	Val	Leu	Thr	Gly	Leu	Thr	Tyr	Gln	Pro	Glu	Trp	Lys	Met	Pro	Leu	
		20					25					30				

ttc	ttg	gtg	ttc	ttg	gtg	atc	tat	ctc	atc	act	att	gtg	tgg	aac	ctt	144
Phe	Leu	Val	Phe	Leu	Val	Ile	Tyr	Leu	Ile	Thr	Ile	Val	Trp	Asn	Leu	
		35				40						45				

ggt	ctg	att	gct	ctt	atc	tgg	aat	gac	cca	caa	ctt	cac	atc	ccc	atg	192
Gly	Leu	Ile	Ala	Leu	Ile	Trp	Asn	Asp	Pro	Gln	Leu	His	Ile	Pro	Met	
	50					55					60					

tac	ttt	ttt	ctt	ggg	agt	tta	gcc	ttt	ggt	gat	gct	tgg	ata	tct	tcc	240
Tyr	Phe	Phe	Leu	Gly	Ser	Leu	Ala	Phe	Val	Asp	Ala	Trp	Ile	Ser	Ser	
65					70				75						80	

aca	gta	act	ccc	aaa	atg	ttg	ggt	aat	ttc	ttg	gcc	aaa	aac	agg	atg	288
Thr	Val	Thr	Pro	Lys	Met	Leu	Val	Asn	Phe	Leu	Ala	Lys	Asn	Arg	Met	
			85					90					95			

ata	tct	ctg	tct	gaa	tgc	atg	att	caa	ttt	ttt	tcc	ttt	gca	ttt	ggt	336
Ile	Ser	Leu	Ser	Glu	Cys	Met	Ile	Gln	Phe	Phe	Ser	Phe	Ala	Phe	Gly	
		100						105					110			

gga	act	aca	gaa	tgt	ttt	ctc	ttg	gca	aca	atg	gca	tat	gat	cgc	tat	384
Gly	Thr	Thr	Glu	Cys	Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	
		115				120						125				

gta	gcc	ata	tgc	aaa	cct	tta	cta	tat	cca	gtg	att	atg	aac	aat	tca	432
Val	Ala	Ile	Cys	Lys	Pro	Leu	Leu	Tyr	Pro	Val	Ile	Met	Asn	Asn	Ser	
	130					135					140					

cta	tgc	ata	cgg	ctg	tta	gcc	ttc	tca	ttt	tta	ggt	ggc	ttc	ctc	cat	480
Leu	Cys	Ile	Arg	Leu	Leu	Ala	Phe	Ser	Phe	Leu	Gly	Gly	Phe	Leu	His	
145				150					155						160	

gcc	tta	att	cat	gaa	gtc	ctt	ata	ttc	aga	tta	acc	ttc	tgc	aat	tct	528
Ala	Leu	Ile	His	Glu	Val	Leu	Ile	Phe	Arg	Leu	Thr	Phe	Cys	Asn	Ser	
			165					170						175		

aac	ata	ata	cat	cat	ttt	tac	tgt	gat	att	ata	cca	ctg	ttt	atg	att	576
Asn	Ile	Ile	His	His	Phe	Tyr	Cys	Asp	Ile	Ile	Pro	Leu	Phe	Met	Ile	
			180					185					190			

tcc	tgt	act	gac	cct	tct	att	aat	ttt	cta	atg	ggt	ttt	att	ttg	tct	624
Ser	Cys	Thr	Asp	Pro	Ser	Ile	Asn	Phe	Leu	Met	Val	Phe	Ile	Leu	Ser	
		195				200						205				

ggc	tca	att	cag	gta	ttc	acc	att	gtg	aca	ggt	ctt	aat	tct	tac	aca	672
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Gly Ser Ile Gln Val Phe Thr Ile Val Thr Val Leu Asn Ser Tyr Thr  
 210 215 220  
 ttt gct ctt ttc aca atc cta aaa aag aag tct gtt aga ggc gta agg 720  
 Phe Ala Leu Phe Thr Ile Leu Lys Lys Lys Ser Val Arg Gly Val Arg  
 225 230 235 240  
 aaa gcc ttt tcc acc tgt gga gcc cat ctc tta tct gtc tct tta tat 768  
 Lys Ala Phe Ser Thr Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr  
 245 250 255  
 tat ggc cca ctt atc ttc atg tat ttg cgc cct gca tct cca caa gca 816  
 Tyr Gly Pro Leu Ile Phe Met Tyr Leu Arg Pro Ala Ser Pro Gln Ala  
 260 265 270  
 gat gac caa gat atg ata gac tct gtc ttt tat aca atc ata att cct 864  
 Asp Asp Gln Asp Met Ile Asp Ser Val Phe Tyr Thr Ile Ile Ile Pro  
 275 280 285  
 ttg cta aat ccc att atc tac agt ctg aga aat aaa caa gta ata gat 912  
 Leu Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Asp  
 290 295 300  
 tca ttc aca aaa atg gta aaa aga aat gtt tag 945  
 Ser Phe Thr Lys Met Val Lys Arg Asn Val  
 305 310

<210> 194  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 194

Met Ser Asn Glu Asp Met Glu Gln Asp Asn Thr Thr Leu Leu Thr Glu  
1 5 10 15

Phe Val Leu Thr Gly Leu Thr Tyr Gln Pro Glu Trp Lys Met Pro Leu  
20 25 30

Phe Leu Val Phe Leu Val Ile Tyr Leu Ile Thr Ile Val Trp Asn Leu  
35 40 45

Gly Leu Ile Ala Leu Ile Trp Asn Asp Pro Gln Leu His Ile Pro Met  
50 55 60

Tyr Phe Phe Leu Gly Ser Leu Ala Phe Val Asp Ala Trp Ile Ser Ser  
65 70 75 80

Thr Val Thr Pro Lys Met Leu Val Asn Phe Leu Ala Lys Asn Arg Met  
85 90 95

Ile Ser Leu Ser Glu Cys Met Ile Gln Phe Phe Ser Phe Ala Phe Gly  
100 105 110

Gly Thr Thr Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Lys Pro Leu Leu Tyr Pro Val Ile Met Asn Asn Ser  
 130 135 140

Leu Cys Ile Arg Leu Leu Ala Phe Ser Phe Leu Gly Gly Phe Leu His  
 145 150 155 160

Ala Leu Ile His Glu Val Leu Ile Phe Arg Leu Thr Phe Cys Asn Ser  
 165 170 175

Asn Ile Ile His His Phe Tyr Cys Asp Ile Ile Pro Leu Phe Met Ile  
 180 185 190

Ser Cys Thr Asp Pro Ser Ile Asn Phe Leu Met Val Phe Ile Leu Ser  
 195 200 205

Gly Ser Ile Gln Val Phe Thr Ile Val Thr Val Leu Asn Ser Tyr Thr  
 210 215 220

Phe Ala Leu Phe Thr Ile Leu Lys Lys Lys Ser Val Arg Gly Val Arg  
 225 230 235 240

Lys Ala Phe Ser Thr Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr  
 245 250 255

Tyr Gly Pro Leu Ile Phe Met Tyr Leu Arg Pro Ala Ser Pro Gln Ala  
 260 265 270

Asp Asp Gln Asp Met Ile Asp Ser Val Phe Tyr Thr Ile Ile Ile Pro  
 275 280 285

Leu Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Asp  
 290 295 300

Ser Phe Thr Lys Met Val Lys Arg Asn Val  
 305 310

<210> 195

<211> 978

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

&lt;222&gt; (1) .. (975)

&lt;223&gt;

&lt;400&gt; 195

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Met	Phe	Leu	Tyr	Leu	Cys	Phe	Ile	Phe	Gln	Arg	Thr	Cys	Ser	Glu	Glu	
1				5					10					15		

atg	gaa	gag	gaa	aat	gca	aca	ttg	ctg	aca	gag	ttt	gtt	ctc	aca	gga	96
Met	Glu	Glu	Glu	Asn	Ala	Thr	Leu	Leu	Thr	Glu	Phe	Val	Leu	Thr	Gly	
			20				25						30			

ttt	tta	cat	caa	cct	gac	tgt	aaa	ata	ccg	ctc	ttc	ctg	gca	ttc	ttg	144
Phe	Leu	His	Gln	Pro	Asp	Cys	Lys	Ile	Pro	Leu	Phe	Leu	Ala	Phe	Leu	
		35					40					45				

gta	ata	tat	ctc	atc	acc	atc	atg	ggg	aat	ctt	ggg	cta	att	gtt	ctc	192
Val	Ile	Tyr	Leu	Ile	Thr	Ile	Met	Gly	Asn	Leu	Gly	Leu	Ile	Val	Leu	
	50					55					60					

atc	tgg	aaa	gac	cct	cac	ctt	cat	atc	cca	atg	tac	tta	ttc	ctt	ggg	240
Ile	Trp	Lys	Asp	Pro	His	Leu	His	Ile	Pro	Met	Tyr	Leu	Phe	Leu	Gly	
65					70					75					80	

agt	tta	gcc	ttt	gtg	gat	gct	tgc	tta	tca	tcc	aca	gtg	act	ccg	aag	288
Ser	Leu	Ala	Phe	Val	Asp	Ala	Ser	Leu	Ser	Ser	Thr	Val	Thr	Pro	Lys	
			85					90						95		

atg	ctg	atc	aac	ttc	tta	gct	aag	agt	aag	atg	ata	tct	ctc	tct	gaa	336
Met	Leu	Ile	Asn	Phe	Leu	Ala	Lys	Ser	Lys	Met	Ile	Ser	Leu	Ser	Glu	
			100					105					110			

tgc	atg	gta	caa	ttt	ttt	tcc	ctt	gta	acc	act	gta	acc	aca	gaa	tgt	384
Cys	Met	Val	Gln	Phe	Phe	Ser	Leu	Val	Thr	Thr	Val	Thr	Thr	Glu	Cys	
		115					120					125				

ttt	ctc	ttg	gca	aca	atg	gca	tat	gat	cgc	tat	gta	gcc	att	tgc	aaa	432
Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	gta	Val	Ala	Ile	Cys	
	130					135					140					

gct	tta	ctt	tat	cca	gtc	att	atg	acc	aat	gaa	cta	tgc	att	cag	cta	480
Ala	Leu	Leu	Tyr	Pro	Val	Ile	Met	Thr	Asn	Glu	Leu	Cys	Ile	Gln	Leu	
145					150					155					160	

tta	gtc	ttg	tca	ttt	ata	ggg	ggc	ctt	ctt	cat	gct	tta	atc	cat	gaa	528
Leu	Val	Leu	Ser	Phe	Ile	Gly	Gly	Leu	Leu	His	Ala	Leu	Ile	His	Glu	
				165				170						175		

gct	ttt	tca	ttc	aga	tta	acc	ttc	tgt	aat	tcc	aac	ata	ata	caa	cac	576
Ala	Phe	Ser	Phe	Arg	Leu	Thr	Phe	Cys	Asn	Ser	Asn	Ile	Ile	Gln	His	
			180					185					190			

ttt	tac	tgt	gac	att	atc	cca	ttg	tta	aag	att	tcc	tgt	act	gat	tcc	624
Phe	Tyr	Cys	Asp	Ile	Ile	Pro	Leu	Leu	Lys	Ile	Ser	Cys	Thr	Asp	Ser	
		195					200					205				

tct	att	aac	ttt	cta	atg	gtt	ttt	att	ttc	gca	ggg	tct	gtt	caa	gtt	672
Ser	Ile	Asn	Phe	Leu	Met	Val	Phe	Ile	Phe	Ala	Gly	Ser	Val	Gln	Val	
	210					215					220					



ttt acc att gga act att ctt ata tct tat aca att atc ctc ttt aca 720  
 Phe Thr Ile Gly Thr Ile Leu Ile Ser Tyr Thr Ile Ile Leu Phe Thr  
 225 230 235 240  
 atc tta gaa aag aag tct atc aaa ggg ata cga aaa gct gtc tcc acc 768  
 Ile Leu Glu Lys Lys Ser Ile Lys Gly Ile Arg Lys Ala Val Ser Thr  
 245 250 255  
 tgt ggg gct cat ctc tta tct gta tct tta tac tat ggc ccc ctc acc 816  
 Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Thr  
 260 265 270  
 ttc aaa tat ctg ggc tct gca tct ccg caa gca gat gac caa gat atg 864  
 Phe Lys Tyr Leu Gly Ser Ala Ser Pro Gln Ala Asp Asp Gln Asp Met  
 275 280 285  
 atg gag tct cta ttt tac act gtc ata gtt cct tta tta aat ccc atg 912  
 Met Glu Ser Leu Phe Tyr Thr Val Ile Val Pro Leu Leu Asn Pro Met  
 290 295 300  
 atc tac agc ctg aga aac aag caa gta ata gct tca ttc aca aaa atg 960  
 Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Ala Ser Phe Thr Lys Met  
 305 310 315 320  
 ttc aaa agc aat gtt tag 978  
 Phe Lys Ser Asn Val  
 325

<210> 196  
 <211> 325  
 <212> PRT  
 <213> Homo Sapiens

<400> 196

Met Phe Leu Tyr Leu Cys Phe Ile Phe Gln Arg Thr Cys Ser Glu Glu  
 1 5 10 15  
 Met Glu Glu Glu Asn Ala Thr Leu Leu Thr Glu Phe Val Leu Thr Gly  
 20 25 30  
 Phe Leu His Gln Pro Asp Cys Lys Ile Pro Leu Phe Leu Ala Phe Leu  
 35 40 45  
 Val Ile Tyr Leu Ile Thr Ile Met Gly Asn Leu Gly Leu Ile Val Leu  
 50 55 60  
 Ile Trp Lys Asp Pro His Leu His Ile Pro Met Tyr Leu Phe Leu Gly  
 65 70 75 80  
 Ser Leu Ala Phe Val Asp Ala Ser Leu Ser Ser Thr Val Thr Pro Lys  
 85 90 95  
 Met Leu Ile Asn Phe Leu Ala Lys Ser Lys Met Ile Ser Leu Ser Glu

100	105	110
Cys Met Val Gln Phe Phe Ser Leu Val Thr Thr Val Thr Thr Glu Cys 115 120 125		
Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys 130 135 140		
Ala Leu Leu Tyr Pro Val Ile Met Thr Asn Glu Leu Cys Ile Gln Leu 145 150 155 160		
Leu Val Leu Ser Phe Ile Gly Gly Leu Leu His Ala Leu Ile His Glu 165 170 175		
Ala Phe Ser Phe Arg Leu Thr Phe Cys Asn Ser Asn Ile Ile Gln His 180 185 190		
Phe Tyr Cys Asp Ile Ile Pro Leu Leu Lys Ile Ser Cys Thr Asp Ser 195 200 205		
Ser Ile Asn Phe Leu Met Val Phe Ile Phe Ala Gly Ser Val Gln Val 210 215 220		
Phe Thr Ile Gly Thr Ile Leu Ile Ser Tyr Thr Ile Ile Leu Phe Thr 225 230 235 240		
Ile Leu Glu Lys Lys Ser Ile Lys Gly Ile Arg Lys Ala Val Ser Thr 245 250 255		
Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Thr 260 265 270		
Phe Lys Tyr Leu Gly Ser Ala Ser Pro Gln Ala Asp Asp Gln Asp Met 275 280 285		
Met Glu Ser Leu Phe Tyr Thr Val Ile Val Pro Leu Leu Asn Pro Met 290 295 300		
Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Ala Ser Phe Thr Lys Met 305 310 315 320		
Phe Lys Ser Asn Val 325		
<210> 197		
<211> 885		

<212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(885)  
 <223>

<400> 197  
 atg cag act gac ttt gtc ctg ttg tgc ttc aga cag aat cca cag gag 48  
 Met Gln Thr Asp Phe Val Leu Leu Cys Phe Arg Gln Asn Pro Gln Glu  
 1 5 10 15

ctg aaa gta ctt ttt gtt atg ttc ttg ctc ttc tac att ttg acc atg 96  
 Leu Lys Val Leu Phe Val Met Phe Leu Leu Phe Tyr Ile Leu Thr Met  
 20 25 30

gtg ggc aac ctg ctc att gta gtg acc gta act gtc agt gag acc ctg 144  
 Val Gly Asn Leu Leu Ile Val Val Thr Val Thr Val Ser Glu Thr Leu  
 35 40 45

ggc tca cca atg tcc ttc ttt ctt gct ggc tta aca ttt ata gat atc 192  
 Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu Thr Phe Ile Asp Ile  
 50 55 60

att tat tct tca tcc att tcc ccc aga ttg att tca gac ttg ttc ttt 240  
 Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile Ser Asp Leu Phe Phe  
 65 70 75 80

ggg aat aat tcc ata tcc ttc caa tct ttc atg gcc cag ctc ttt atc 288  
 Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met Ala Gln Leu Phe Ile  
 85 90 95

gag cac ctt ttt ggt ggg tca gag gtc ttt ctc ctg ttg gtg atg gcc 336  
 Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu Leu Leu Val Met Ala  
 100 105 110

tat gac cgc tat gtg gcc atc tgt aag ccc ttg cat tat ttg gtt atc 384  
 Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Val Ile  
 115 120 125

atg aga caa tgg gtg tgt gtt ttg ctg ctg gta gtg tcc tgg gtt gga 432  
 Met Arg Gln Trp Val Cys Val Leu Leu Leu Val Val Ser Trp Val Gly  
 130 135 140

gga ttt ctg caa tca gta ttt caa ctt agc att att tat ggg ctc cca 480  
 Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile Ile Tyr Gly Leu Pro  
 145 150 155 160

ttc tgt ggc ccc aat gtc att gat cat ttt ttc tgt gac atg tat ccc 528  
 Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe Cys Asp Met Tyr Pro  
 165 170 175

tta ttg aaa ctg gcc tgc act gac acc cat gtt att ggc ctc tta gtg 576  
 Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val Ile Gly Leu Leu Val  
 180 185 190

gtg gcc aat gga gga ctg tct tgc act att gcg ttt ctg ctc tta ctc 624  
 Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala Phe Leu Leu Leu Leu  
 195 200 205

atc tct tat ggt gtc atc ctg cac tct cta aag aaa ctt agt cag aaa 672  
 Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys Lys Leu Ser Gln Lys  
 210 215 220  
 ggg agg caa aaa gcc cac tca acc tgc agt tcc cac atc act gtg gtt 720  
 Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser His Ile Thr Val Val  
 225 230 235 240  
 gtc ttc ttc ttt gtt cct tgt att ttt atg tgt gct aga cct gct agg 768  
 Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys Ala Arg Pro Ala Arg  
 245 250 255  
 acc ttc tcc att gac aaa tca gtg agt gtg ttt tat aca gtc ata acc 816  
 Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe Tyr Thr Val Ile Thr  
 260 265 270  
 cca atg ctg aac ccc tta atc tac act ctg aga aat tct gag atg aca 864  
 Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Ser Glu Met Thr  
 275 280 285  
 agt gct atg aag aag ctt tag 885  
 Ser Ala Met Lys Lys Leu  
 290

<210> 198  
 <211> 294  
 <212> PRT  
 <213> Homo Sapiens

<400> 198

Met Gln Thr Asp Phe Val Leu Leu Cys Phe Arg Gln Asn Pro Gln Glu  
 1 5 10 15  
 Leu Lys Val Leu Phe Val Met Phe Leu Leu Phe Tyr Ile Leu Thr Met  
 20 25 30  
 Val Gly Asn Leu Leu Ile Val Val Thr Val Thr Val Ser Glu Thr Leu  
 35 40 45  
 Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu Thr Phe Ile Asp Ile  
 50 55 60  
 Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile Ser Asp Leu Phe Phe  
 65 70 75 80  
 Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met Ala Gln Leu Phe Ile  
 85 90 95  
 Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu Leu Leu Val Met Ala  
 100 105 110

Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Val Ile  
 115 120 125

Met Arg Gln Trp Val Cys Val Leu Leu Leu Val Val Ser Trp Val Gly  
 130 135 140

Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile Ile Tyr Gly Leu Pro  
 145 150 155 160

Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe Cys Asp Met Tyr Pro  
 165 170 175

Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val Ile Gly Leu Leu Val  
 180 185 190

Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala Phe Leu Leu Leu Leu  
 195 200 205

Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys Lys Leu Ser Gln Lys  
 210 215 220

Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser His Ile Thr Val Val  
 225 230 235 240

Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys Ala Arg Pro Ala Arg  
 245 250 255

Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe Tyr Thr Val Ile Thr  
 260 265 270

Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Ser Glu Met Thr  
 275 280 285

Ser Ala Met Lys Lys Leu  
 290

<210> 199  
 <211> 1014  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(1011)  
 <223>

<400> 199  
 atg gaa ggg aaa aat caa acc aat atc tct gaa ttt ctc ctc ctg ggc

Met	Glu	Gly	Lys	Asn	Gln	Thr	Asn	Ile	Ser	Glu	Phe	Leu	Leu	Leu	Gly	
1				5					10						15	
ttc	tca	agt	tgg	caa	caa	cag	cag	gtg	cta	ctc	ttt	gca	ctt	ttc	ctg	96
Phe	Ser	Ser	Trp	Gln	Gln	Gln	Gln	Val	Leu	Leu	Phe	Ala	Leu	Phe	Leu	
			20					25						30		
tgt	ctc	tat	tta	aca	ggg	ctg	ttt	gga	aac	tta	ctc	atc	ttg	ctg	gcc	144
Cys	Leu	Tyr	Leu	Thr	Gly	Leu	Phe	Gly	Asn	Leu	Leu	Ile	Leu	Leu	Ala	
		35					40					45				
att	ggc	tcg	gat	cac	tgc	ctt	cac	aca	ccc	atg	tat	ttc	ttc	ctt	gcc	192
Ile	Gly	Ser	Asp	His	Cys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ala	
	50					55					60					
aat	ctg	tcc	ttg	gta	gac	ctc	tgc	ctt	ccc	tca	gcc	aca	gtc	ccc	aag	240
Asn	Leu	Ser	Leu	Val	Asp	Leu	Cys	Leu	Pro	Ser	Ala	Thr	Val	Pro	Lys	
65					70					75					80	
atg	cta	ctg	aac	atc	caa	acc	caa	acc	caa	acc	atc	tcc	tat	ccc	ggc	288
Met	Leu	Leu	Asn	Ile	Gln	Thr	Gln	Thr	Gln	Thr	Ile	Ser	Tyr	Pro	Gly	
			85						90					95		
tgc	ctg	gct	cag	atg	tat	ttc	tgt	atg	atg	ttt	gcc	aat	atg	gac	aat	336
Cys	Leu	Ala	Gln	Met	Tyr	Phe	Cys	Met	Met	Phe	Ala	Asn	Met	Asp	Asn	
			100					105					110			
ttt	ctt	ctc	aca	gtg	atg	gca	tat	gac	cgt	tac	gtg	gcc	atc	tgt	cac	384
Phe	Leu	Leu	Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	
			115					120				125				
cct	tta	cat	tac	tcc	acc	att	atg	gcc	ctg	cgc	ctc	tgt	gcc	tct	ctg	432
Pro	Leu	His	Tyr	Ser	Thr	Ile	Met	Ala	Leu	Arg	Leu	Cys	Ala	Ser	Leu	
		130				135					140					
gta	gct	gca	cct	tgg	gtc	att	gcc	att	ttg	aac	cct	ctc	ttg	cac	act	480
Val	Ala	Ala	Pro	Trp	Val	Ile	Ala	Ile	Leu	Asn	Pro	Leu	Leu	His	Thr	
145					150					155					160	
ctt	atg	atg	gcc	cat	ctg	cac	ttc	tgc	tct	gat	aat	gtt	atc	cac	cat	528
Leu	Met	Met	Ala	His	Leu	His	Phe	Cys	Ser	Asp	Asn	Val	Ile	His	His	
			165					170						175		
ttc	ttc	tgt	gat	atc	aac	tct	ctc	ctc	cct	ctg	tcc	tgt	tcc	gac	acc	576
Phe	Phe	Cys	Asp	Ile	Asn	Ser	Leu	Leu	Pro	Leu	Ser	Cys	Ser	Asp	Thr	
			180					185					190			
agt	ctt	aat	cag	ttg	agt	gtt	ctg	gct	acg	gtg	ggg	ctg	atc	ttt	gtg	624
Ser	Leu	Asn	Gln	Leu	Ser	Val	Leu	Ala	Thr	Val	Gly	Leu	Ile	Phe	Val	
		195					200					205				
gta	cct	tca	gtg	tgt	atc	ctg	gta	tcc	tat	atc	ctc	att	gtt	tct	gct	672
Val	Pro	Ser	Val	Cys	Ile	Leu	Val	Ser	Tyr	Ile	Leu	Ile	Val	Ser	Ala	
		210				215					220					
gtg	atg	aaa	gtc	cct	tct	gcc	caa	gga	aaa	ctc	aag	gct	ttc	tct	acc	720
Val	Met	Lys	Val	Pro	Ser	Ala	Gln	Gly	Lys	Leu	Lys	Ala	Phe	Ser	Thr	
225					230					235					240	
tgt	gga	tct	cac	ctt	gcc	ttg	gtc	att	ctt	ttc	tat	gga	gca	aac	aca	768
Cys	Gly	Ser	His	Leu	Ala	Leu	Val	Ile	Leu	Phe	Tyr	Gly	Ala	Asn	Thr	

245	250	255	
ggg gtc tat atg agc ccc tta tcc aat cac tct act	gaa aaa gac tca	816	
Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr	Glu Lys Asp Ser		
260	265 270		
gcc gca tca gtc att ttt atg gtt gta gca cct gtg ttg aat cca ttc	864		
Ala Ala Ser Val Ile Phe Met Val Val Ala Pro Val Leu Asn Pro Phe			
275	280 285		
att tac agt tta aga aac aat gaa ctg aag ggg act tta aaa aag acc	912		
Ile Tyr Ser Leu Arg Asn Asn Glu Leu Lys Gly Thr Leu Lys Lys Thr			
290	295 300		
cta agc cgg ccg ggc gcg gtg gct cac gcc tgt aat ccc agc act ttg	960		
Leu Ser Arg Pro Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu			
305	310 315 320		
gga ggc cga ggc ggg tgg atc atg agg tca gga gat cga gac cat cct	1008		
Gly Gly Arg Gly Gly Trp Ile Met Arg Ser Gly Asp Arg Asp His Pro			
325	330 335		
ggc taa	1014		
Gly			

<210> 200  
 <211> 337  
 <212> PRT  
 <213> Homo Sapiens

<400> 200

Met Glu Gly Lys Asn Gln Thr Asn Ile Ser Glu Phe Leu Leu Leu Gly	
1 5 10 15	
Phe Ser Ser Trp Gln Gln Gln Gln Val Leu Leu Phe Ala Leu Phe Leu	
20 25 30	
Cys Leu Tyr Leu Thr Gly Leu Phe Gly Asn Leu Leu Ile Leu Leu Ala	
35 40 45	
Ile Gly Ser Asp His Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ala	
50 55 60	
Asn Leu Ser Leu Val Asp Leu Cys Leu Pro Ser Ala Thr Val Pro Lys	
65 70 75 80	
Met Leu Leu Asn Ile Gln Thr Gln Thr Gln Thr Ile Ser Tyr Pro Gly	
85 90 95	
Cys Leu Ala Gln Met Tyr Phe Cys Met Met Phe Ala Asn Met Asp Asn	
100 105 110	

Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu His Tyr Ser Thr Ile Met Ala Leu Arg Leu Cys Ala Ser Leu  
 130 135 140

Val Ala Ala Pro Trp Val Ile Ala Ile Leu Asn Pro Leu Leu His Thr  
 145 150 155 160

Leu Met Met Ala His Leu His Phe Cys Ser Asp Asn Val Ile His His  
 165 170 175

Phe Phe Cys Asp Ile Asn Ser Leu Leu Pro Leu Ser Cys Ser Asp Thr  
 180 185 190

Ser Leu Asn Gln Leu Ser Val Leu Ala Thr Val Gly Leu Ile Phe Val  
 195 200 205

Val Pro Ser Val Cys Ile Leu Val Ser Tyr Ile Leu Ile Val Ser Ala  
 210 215 220

Val Met Lys Val Pro Ser Ala Gln Gly Lys Leu Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ala Leu Val Ile Leu Phe Tyr Gly Ala Asn Thr  
 245 250 255

Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr Glu Lys Asp Ser  
 260 265 270

Ala Ala Ser Val Ile Phe Met Val Val Ala Pro Val Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Leu Lys Gly Thr Leu Lys Lys Thr  
 290 295 300

Leu Ser Arg Pro Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu  
 305 310 315 320

Gly Gly Arg Gly Gly Trp Ile Met Arg Ser Gly Asp Arg Asp His Pro  
 325 330 335

Gly



<210> 201  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

<400> 201  
 atg gcc aag aat aat ctc acc aga gta acc gaa ttc att ctc atg ggc 48  
 Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly  
 1 5 10 15  
 ttt atg gac cac ccc aaa ttg gag att ccc ctc ttt ctg gtg ttt ctg 96  
 Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30  
 agt ttc tac cta gtc acc ctt ctt ggg aat gtg ggg atg att atg tta 144  
 Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu  
 35 40 45  
 atc caa gta gat gtc aaa ctc tac acc cca atg tac ttc ttc ctg agc 192  
 Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 cac ctc tcc ctg ctg gat gcc tgt tac acc tca gtc atc acc cct cag 240  
 His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln  
 65 70 75 80  
 atc cta gcc aca ttg gcc aca ggc aaa acg gtc atc tcc tac ggc cac 288  
 Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His  
 85 90 95  
 tgt gct gcc cag ttc ttt tta ttc acc atc tgt gca ggc aca gag tcg 336  
 Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Ser  
 100 105 110  
 ttt ctg ctg gca gtg atg gcc tat gat cgc tat gct gcc att cgc aac 384  
 Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn  
 115 120 125  
 cca ctg ctc tat acc gtg gcc atg aat ccc agg ctc tgc tgg agc ctg 432  
 Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu  
 130 135 140  
 gtg gta gga gcc tat gtc tgt ggg gtg tca gga gcc atc ctg cgt acc 480  
 Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr  
 145 150 155 160  
 act tgc acc ttc acc ctc tcc ttc tgt aag gac aat caa ata aac ttc 528  
 Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe  
 165 170 175  
 ttc ttc tgt gac ctc cca ccc ctg ctg aag ctt gcc tgc agt gac aca 576  
 Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr  
 180 185 190  
 gca aac atc gag att gtc atc atc ttc ttt ggc aat ttt gtg att ttg 624

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu  
 195 200 205

gcc aat gcc tcc gtc atc ctg att tcc tat ctg ctc atc atc aag acc 672  
 Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr  
 210 215 220

att ttg aaa gtg aag tct tca ggt ggc agg gcc aag act ttc tcc aca 720  
 Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr  
 225 230 235 240

tgt gcc tct cac atc act gct gtg gcc ctt ttc ttt gga gcc ctt atc 768  
 Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile  
 245 250 255

ttc atg tat ctg caa agt ggc tca ggc aaa tct ctg gag gaa gac aaa 816  
 Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys  
 260 265 270

gtc gtg tct gtc ttc tat aca gtg gtc atc ccc atg ctg aac cct ctg 864  
 Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

atc tac agc tta aga aac aaa gat gta aaa gac gcc ttc aga aag gtc 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val  
 290 295 300

gct agg aga ctc cag gtg tcc ctg agc atg tag 945  
 Ala Arg Arg Leu Gln Val Ser Leu Ser Met  
 305 310

<210> 202  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 202

Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly  
 1 5 10 15

Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30

Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu  
 35 40 45

Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln  
 65 70 75 80

Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His  
 85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Ser  
                   100                                  105                                  110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn  
                   115                                  120                                  125

Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu  
                   130                                  135                                  140

Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr  
                   145                                  150                                  155                                  160

Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe  
                                   165                                  170                                  175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr  
                                   180                                  185                                  190

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu  
                   195                                  200                                  205

Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr  
                   210                                  215                                  220

Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr  
                   225                                  230                                  235                                  240

Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile  
                                   245                                  250                                  255

Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys  
                   260                                  265                                  270

Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
                   275                                  280                                  285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val  
                   290                                  295                                  300

Ala Arg Arg Leu Gln Val Ser Leu Ser Met  
                   305                                  310

<210> 203  
 <211> 975  
 <212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(972)

&lt;223&gt;

&lt;400&gt; 203

atg gct gta gga agg aac aac aca att gtg aca aaa ttc att ctc ctg	48
Met Ala Val Gly Arg Asn Asn Thr Ile Val Thr Lys Phe Ile Leu Leu	
1 5 10 15	
gga ctt tca gac cat cct caa atg aag att ttc ctt ttc atg tta ttt	96
Gly Leu Ser Asp His Pro Gln Met Lys Ile Phe Leu Phe Met Leu Phe	
20 25 30	
ctg ggg ctc tac ctc ctg acg ttg gcc tgg aac tta agc ctc att gcc	144
Leu Gly Leu Tyr Leu Leu Thr Leu Ala Trp Asn Leu Ser Leu Ile Ala	
35 40 45	
ctc att aag atg gac tct cac ctg cac atg ccc atg tac ttc ttc ctc	192
Leu Ile Lys Met Asp Ser His Leu His Met Pro Met Tyr Phe Phe Leu	
50 55 60	
agt aac ctg tcc ttc ctg gac atc tgc tat gtg tcc tcc acc gcc cct	240
Ser Asn Leu Ser Phe Leu Asp Ile Cys Tyr Val Ser Ser Thr Ala Pro	
65 70 75 80	
aag atg ctg tct gac atc atc aca gag cag aaa acc att tcc ttt gtt	288
Lys Met Leu Ser Asp Ile Ile Thr Glu Gln Lys Thr Ile Ser Phe Val	
85 90 95	
ggc tgt gcc act cag tac ttt gtc ttc tgt ggg atg ggg ctg act gaa	336
Gly Cys Ala Thr Gln Tyr Phe Val Phe Cys Gly Met Gly Leu Thr Glu	
100 105 110	
tgc ttt ctc ctg gca gct atg gcc tat gac cgg tat gct gca atc tgc	384
Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys	
115 120 125	
aac ccc ttg ctt tac aca gtc ctc ata tcc cat aca ctt tgt tta aag	432
Asn Pro Leu Leu Tyr Thr Val Leu Ile Ser His Thr Leu Cys Leu Lys	
130 135 140	
atg gtg gtt ggc gcc tat gtg ggt gga ttc ctt agt tct ttc att gaa	480
Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Phe Ile Glu	
145 150 155 160	
aca tac tct gtc tat cag cat gat ttc tgt ggg ccc tat atg atc aac	528
Thr Tyr Ser Val Tyr Gln His Asp Phe Cys Gly Pro Tyr Met Ile Asn	
165 170 175	
cac ttt ttc tgt gac ctc cct cca gtc ctg gct ctg tcc tgc tct gat	576
His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys Ser Asp	
180 185 190	
acc ttc acc agc gag gtg gtg acc ttc ata gtc agt gtt gtc gtt gga	624
Thr Phe Thr Ser Glu Val Val Thr Phe Ile Val Ser Val Val Val Gly	
195 200 205	

ata gtg tct gtg cta gtg gtc ctc atc tct tat ggt tac att gtt gct 672  
 Ile Val Ser Val Leu Val Val Leu Ile Ser Tyr Gly Tyr Ile Val Ala  
 210 215 220  
 gct gtt gtg aag atc agc tca gct aca ggt agg aca aag gcc ttc agc 720  
 Ala Val Val Lys Ile Ser Ser Ala Thr Gly Arg Thr Lys Ala Phe Ser  
 225 230 235 240  
 act tgt gcc tct cac ctg act gct gtg acc ctc ttc tat ggt tct gga 768  
 Thr Cys Ala Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ser Gly  
 245 250 255  
 ttc ttc atg tac atg cga ccc agt tcc agc tac tcc cta aac agg gac 816  
 Phe Phe Met Tyr Met Arg Pro Ser Ser Ser Tyr Ser Leu Asn Arg Asp  
 260 265 270  
 aag gtg gtg tcc ata ttc tat gcc ttg gtg atc ccc gtg gtg aat ccc 864  
 Lys Val Val Ser Ile Phe Tyr Ala Leu Val Ile Pro Val Val Asn Pro  
 275 280 285  
 atc atc tac agt ttt agg aat aag gag att aaa aat gcc atg agg aaa 912  
 Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Asn Ala Met Arg Lys  
 290 295 300  
 gcc atg gaa agg gac ccc ggg att tct cac ggt gga cca ttc att ttt 960  
 Ala Met Glu Arg Asp Pro Gly Ile Ser His Gly Gly Pro Phe Ile Phe  
 305 310 315 320  
 atg acc ttg ggc taa 975  
 Met Thr Leu Gly

<210> 204  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 204

Met Ala Val Gly Arg Asn Asn Thr Ile Val Thr Lys Phe Ile Leu Leu  
 1 5 10 15

Gly Leu Ser Asp His Pro Gln Met Lys Ile Phe Leu Phe Met Leu Phe  
 20 25 30

Leu Gly Leu Tyr Leu Leu Thr Leu Ala Trp Asn Leu Ser Leu Ile Ala  
 35 40 45

Leu Ile Lys Met Asp Ser His Leu His Met Pro Met Tyr Phe Phe Leu  
 50 55 60

Ser Asn Leu Ser Phe Leu Asp Ile Cys Tyr Val Ser Ser Thr Ala Pro  
 65 70 75 80

Lys Met Leu Ser Asp Ile Ile Thr Glu Gln Lys Thr Ile Ser Phe Val

85	90	95
Gly Cys Ala Thr Gln Tyr Phe Val	Phe Cys Gly Met Gly Leu Thr Glu	
100	105	110
Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys		
115	120	125
Asn Pro Leu Leu Tyr Thr Val Leu Ile Ser His Thr Leu Cys Leu Lys		
130	135	140
Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Phe Ile Glu		
145	150	155
Thr Tyr Ser Val Tyr Gln His Asp Phe Cys Gly Pro Tyr Met Ile Asn		
165	170	175
His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys Ser Asp		
180	185	190
Thr Phe Thr Ser Glu Val Val Thr Phe Ile Val Ser Val Val Val Gly		
195	200	205
Ile Val Ser Val Leu Val Val Leu Ile Ser Tyr Gly Tyr Ile Val Ala		
210	215	220
Ala Val Val Lys Ile Ser Ser Ala Thr Gly Arg Thr Lys Ala Phe Ser		
225	230	235
Thr Cys Ala Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ser Gly		
245	250	255
Phe Phe Met Tyr Met Arg Pro Ser Ser Ser Tyr Ser Leu Asn Arg Asp		
260	265	270
Lys Val Val Ser Ile Phe Tyr Ala Leu Val Ile Pro Val Val Asn Pro		
275	280	285
Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Asn Ala Met Arg Lys		
290	295	300
Ala Met Glu Arg Asp Pro Gly Ile Ser His Gly Gly Pro Phe Ile Phe		
305	310	315
Met Thr Leu Gly		

<210> 205  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)  
 <223>

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<400> 205
atg tcc ata acc aaa gcc tgg aac agc tca tca gtg acc atg ttc atc      48
Met Ser Ile Thr Lys Ala Trp Asn Ser Ser Val Thr Met Phe Ile
1          5          10          15

ctc ctg gga ttc aca gac cat cca gaa ctc cag gcc ctc ctc ttt gtg      96
Leu Leu Gly Phe Thr Asp His Pro Glu Leu Gln Ala Leu Leu Phe Val
          20          25          30

acc ttc ctg ggc atc tat ctt acc acc ctg gcc tgg aac ctg gcc ctc      144
Thr Phe Leu Gly Ile Tyr Leu Thr Leu Ala Trp Asn Leu Ala Leu
          35          40          45'

att ttt ctg atc aga ggt gac acc cat ctg cac aca ccc atg tac ttc      192
Ile Phe Leu Ile Arg Gly Asp Thr His Leu His Thr Pro Met Tyr Phe
          50          55          60

ttc cta agc aac tta tct ttc att gac atc tgc tac tct tct gct gtg      240
Phe Leu Ser Asn Leu Ser Phe Ile Asp Ile Cys Tyr Ser Ser Ala Val
65          70          75          80

gct ccc aat atg ctc act gac ttc ttc tgg gag cag aag acc ata tca      288
Ala Pro Asn Met Leu Thr Asp Phe Phe Trp Glu Gln Lys Thr Ile Ser
          85          90          95

ttt gtg ggc tgt gct gct cag ttt ttt ttc ttt gtc ggc atg ggt ctg      336
Phe Val Gly Cys Ala Ala Gln Phe Phe Phe Phe Val Gly Met Gly Leu
          100          105          110

tct gag tgc ctc ctc ctg act gct atg gca tac gac cga tat gca gcc      384
Ser Glu Cys Leu Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala
          115          120          125

atc tcc agc ccc ctt ctc tac ccc act atc atg acc cag ggc ctc tgt      432
Ile Ser Ser Pro Leu Leu Tyr Pro Thr Ile Met Thr Gln Gly Leu Cys
          130          135          140

aca cgc atg gtg gtt ggg gca tat gtt ggt ggc ttc ctg agc tcc ctg      480
Thr Arg Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Leu
145          150          155          160

atc cag gcc agc tcc ata ttt agg ctt cac ttt tgc gga ccc aac atc      528
Ile Gln Ala Ser Ser Ile Phe Arg Leu His Phe Cys Gly Pro Asn Ile
          165          170          175

atc aac cac ttc ttc tgc gac ctc cca cca gtc ctg gct ctg tct tgc      576
Ile Asn His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys
          180          185          190

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tct gac acc ttc ctc agt caa gtg gtg aat ttc ctc gtg gtg gtc act 624  
 Ser Asp Thr Phe Leu Ser Gln Val Val Asn Phe Leu Val Val Val Thr  
 195 200 205

gtc gga gga aca tcg ttc ctc caa ctc ctt atc tcc tat ggt tac ata 672  
 Val Gly Gly Thr Ser Phe Leu Gln Leu Leu Ile Ser Tyr Gly Tyr Ile  
 210 215 220

gtg tct gcg gtc ctg aag atc cct tca gca gag ggc cga tgg aaa gcc 720  
 Val Ser Ala Val Leu Lys Ile Pro Ser Ala Glu Gly Arg Trp Lys Ala  
 225 230 235 240

tgc aac acg tgt gcc tcg cat ctg atg gtg gtg act ctg ctg ttt ggg 768  
 Cys Asn Thr Cys Ala Ser His Leu Met Val Val Thr Leu Leu Phe Gly  
 245 250 255

aca gcc ctt ttc gtg tac ttg cga ccc agc tcc agc tac ttg cta ggc 816  
 Thr Ala Leu Phe Val Tyr Leu Arg Pro Ser Ser Ser Tyr Leu Leu Gly  
 260 265 270

agg gac aag gtg gtg tct gtt ttc tat tca ttg gtg atc ccc atg ctg 864  
 Arg Asp Lys Val Val Ser Val Phe Tyr Ser Leu Val Ile Pro Met Leu  
 275 280 285

aac cct ctc att tac agt ttg agg aac aaa gag atc aag gat gcc ctg 912  
 Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu  
 290 295 300

tgg aag gtg ttg gaa agg aag aaa gtg ttt tct tag 948  
 Trp Lys Val Leu Glu Arg Lys Lys Val Phe Ser  
 305 310 315

<210> 206

<211> 315

<212> PRT

<213> Homo Sapiens

<400> 206

Met Ser Ile Thr Lys Ala Trp Asn Ser Ser Ser Val Thr Met Phe Ile  
 1 5 10 15

Leu Leu Gly Phe Thr Asp His Pro Glu Leu Gln Ala Leu Leu Phe Val  
 20 25 30

Thr Phe Leu Gly Ile Tyr Leu Thr Thr Leu Ala Trp Asn Leu Ala Leu  
 35 40 45

Ile Phe Leu Ile Arg Gly Asp Thr His Leu His Thr Pro Met Tyr Phe  
 50 55 60

Phe Leu Ser Asn Leu Ser Phe Ile Asp Ile Cys Tyr Ser Ser Ala Val  
 65 70 75 80



Ala Pro Asn Met Leu Thr Asp Phe Phe Trp Glu Gln Lys Thr Ile Ser  
85 90 95

Phe Val Gly Cys Ala Ala Gln Phe Phe Phe Phe Val Gly Met Gly Leu  
100 105 110

Ser Glu Cys Leu Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala  
115 120 125

Ile Ser Ser Pro Leu Leu Tyr Pro Thr Ile Met Thr Gln Gly Leu Cys  
130 135 140

Thr Arg Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Leu  
145 150 155 160

Ile Gln Ala Ser Ser Ile Phe Arg Leu His Phe Cys Gly Pro Asn Ile  
165 170 175

Ile Asn His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys  
180 185 190

Ser Asp Thr Phe Leu Ser Gln Val Val Asn Phe Leu Val Val Val Thr  
195 200 205

Val Gly Gly Thr Ser Phe Leu Gln Leu Leu Ile Ser Tyr Gly Tyr Ile  
210 215 220

Val Ser Ala Val Leu Lys Ile Pro Ser Ala Glu Gly Arg Trp Lys Ala  
225 230 235 240

Cys Asn Thr Cys Ala Ser His Leu Met Val Val Thr Leu Leu Phe Gly  
245 250 255

Thr Ala Leu Phe Val Tyr Leu Arg Pro Ser Ser Ser Tyr Leu Leu Gly  
260 265 270

Arg Asp Lys Val Val Ser Val Phe Tyr Ser Leu Val Ile Pro Met Leu  
275 280 285

Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu  
290 295 300

Trp Lys Val Leu Glu Arg Lys Lys Val Phe Ser  
305 310 315

<210> 207

<211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 207  
 atg gag atg gaa aac tgc acc agg gta aaa gaa ttt att ttc ctt ggc 48  
 Met Glu Met Glu Asn Cys Thr Arg Val Lys Glu Phe Ile Phe Leu Gly  
 1 5 10 15  
 ctg acc cag aat cgg gaa gtg agc tta gtc tta ttt ctt ttc cta ctc 96  
 Leu Thr Gln Asn Arg Glu Val Ser Leu Val Leu Phe Leu Phe Leu Leu  
 20 25 30  
 ttg gtg tat gtg aca act ttg ctg gga aac ctc ctc atc atg gtc act 144  
 Leu Val Tyr Val Thr Thr Leu Leu Gly Asn Leu Leu Ile Met Val Thr  
 35 40 45  
 gtt acc tgt gaa tct cgc ctt cac acg ccc atg tat ttt ttg ctc cat 192  
 Val Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu His  
 50 55 60  
 aat tta tct att gcc gat atc tgc ttc tct tcc atc aca gtg ccc aag 240  
 Asn Leu Ser Ile Ala Asp Ile Cys Phe Ser Ser Ile Thr Val Pro Lys  
 65 70 75 80  
 gtt ctg gtg gac ctt ctg tct gaa aga aag acc atc tcc ttc aat cat 288  
 Val Leu Val Asp Leu Leu Ser Glu Arg Lys Thr Ile Ser Phe Asn His  
 85 90 95  
 tgc ttc act cag atg ttt cta ttc cac ctt att gga ggg gtg gat gta 336  
 Cys Phe Thr Gln Met Phe Leu Phe His Leu Ile Gly Gly Val Asp Val  
 100 105 110  
 ttt tct ctt tcg gtg atg gca ttg gat cga tat gtg gcc atc tcc aag 384  
 Phe Ser Leu Ser Val Met Ala Leu Asp Arg Tyr Val Ala Ile Ser Lys  
 115 120 125  
 ccc ctg cac tat gcg act atc atg agt aga gac cat tgc att ggg ctc 432  
 Pro Leu His Tyr Ala Thr Ile Met Ser Arg Asp His Cys Ile Gly Leu  
 130 135 140  
 aca gtg gct gcc tgg ttg ggg ggc ttt gtc cac tcc atc gtg cag att 480  
 Thr Val Ala Ala Trp Leu Gly Gly Phe Val His Ser Ile Val Gln Ile  
 145 150 155 160  
 tcc ctg ttg ctc cca ctc cct ttc tgc gga ccc aat gtt ctt gac act 528  
 Ser Leu Leu Leu Pro Leu Pro Phe Cys Gly Pro Asn Val Leu Asp Thr  
 165 170 175  
 ttc tac tgt gat gtc cac cgg gtc ctc aaa ctg gcc cat aca gac att 576  
 Phe Tyr Cys Asp Val His Arg Val Leu Lys Leu Ala His Thr Asp Ile  
 180 185 190  
 ttc ata ctt gaa cta cta atg att tcc aac aat gga ctg ctc acc aca 624  
 Phe Ile Leu Glu Leu Leu Met Ile Ser Asn Asn Gly Leu Leu Thr Thr

195	200	205	
ctg tgg ttt ttc ctg ctc ctg gtg tcc tac ata gtc ata tta tca tta			672
Leu Trp Phe Phe Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Ser Leu			
210	215	220	
ccc aag tct cag gca gga gag ggc agg agg aaa gcc atc tcc acc tgc			720
Pro Lys Ser Gln Ala Gly Glu Gly Arg Arg Lys Ala Ile Ser Thr Cys			
225	230	235	240
acc tcc cac atc act gtg gtg acc ctg cat ttc gtg ccc tgc atc tat			768
Thr Ser His Ile Thr Val Val Thr Leu His Phe Val Pro Cys Ile Tyr			
245	250	255	
gtc tat gcc cgg ccc ttc act gcc ctc ccc atg gat aag gcc atc tct			816
Val Tyr Ala Arg Pro Phe Thr Ala Leu Pro Met Asp Lys Ala Ile Ser			
260	265	270	
gtc acc ttc act gtc atc tcc cct ctg ctc aac ccc ttg atc tac act			864
Val Thr Phe Thr Val Ile Ser Pro Leu Leu Asn Pro Leu Ile Tyr Thr			
275	280	285	
ctg agg aac cat gag atg aag tca gcc atg agg aga ctg aag aga aga			912
Leu Arg Asn His Glu Met Lys Ser Ala Met Arg Arg Leu Lys Arg Arg			
290	295	300	
ctt gtg cct tct gat aga aaa tag			936
Leu Val Pro Ser Asp Arg Lys			
305	310		

<210> 208  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 208

Met Glu Met Glu Asn Cys Thr Arg Val Lys Glu Phe Ile Phe Leu Gly  
 1 5 10 15

Leu Thr Gln Asn Arg Glu Val Ser Leu Val Leu Phe Leu Phe Leu Leu  
 20 25 30

Leu Val Tyr Val Thr Thr Leu Leu Gly Asn Leu Leu Ile Met Val Thr  
 35 40 45

Val Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu His  
 50 55 60

Asn Leu Ser Ile Ala Asp Ile Cys Phe Ser Ser Ile Thr Val Pro Lys  
 65 70 75 80

Val Leu Val Asp Leu Leu Ser Glu Arg Lys Thr Ile Ser Phe Asn His  
 85 90 95

Cys Phe Thr Gln Met Phe Leu Phe His Leu Ile Gly Gly Val Asp Val  
 100 105 110

Phe Ser Leu Ser Val Met Ala Leu Asp Arg Tyr Val Ala Ile Ser Lys  
 115 120 125

Pro Leu His Tyr Ala Thr Ile Met Ser Arg Asp His Cys Ile Gly Leu  
 130 135 140

Thr Val Ala Ala Trp Leu Gly Gly Phe Val His Ser Ile Val Gln Ile  
 145 150 155 160

Ser Leu Leu Leu Pro Leu Pro Phe Cys Gly Pro Asn Val Leu Asp Thr  
 165 170 175

Phe Tyr Cys Asp Val His Arg Val Leu Lys Leu Ala His Thr Asp Ile  
 180 185 190

Phe Ile Leu Glu Leu Leu Met Ile Ser Asn Asn Gly Leu Leu Thr Thr  
 195 200 205

Leu Trp Phe Phe Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Ser Leu  
 210 215 220

Pro Lys Ser Gln Ala Gly Glu Gly Arg Arg Lys Ala Ile Ser Thr Cys  
 225 230 235 240

Thr Ser His Ile Thr Val Val Thr Leu His Phe Val Pro Cys Ile Tyr  
 245 250 255

Val Tyr Ala Arg Pro Phe Thr Ala Leu Pro Met Asp Lys Ala Ile Ser  
 260 265 270

Val Thr Phe Thr Val Ile Ser Pro Leu Leu Asn Pro Leu Ile Tyr Thr  
 275 280 285

Leu Arg Asn His Glu Met Lys Ser Ala Met Arg Arg Leu Lys Arg Arg  
 290 295 300

Leu Val Pro Ser Asp Arg Lys  
 305 310

<210> 209  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (942)

&lt;223&gt;

&lt;400&gt; 209

atg gac cag atc aac cac act aat gtg aag gag ttt ttc ttc ctg gaa	48
Met Asp Gln Ile Asn His Thr Asn Val Lys Glu Phe Phe Phe Leu Glu	
1 5 10 15	
ctt aca cgt tcc cga gag ctg gag ttt ttc ttg ttt gtg gtc ttc ttt	96
Leu Thr Arg Ser Arg Glu Leu Glu Phe Phe Leu Phe Val Val Phe Phe	
20 25 30	
gct gtg tat gta gca aca gtc ctg gga aat gca ctc att gtg gtc act	144
Ala Val Tyr Val Ala Thr Val Leu Gly Asn Ala Leu Ile Val Val Thr	
35 40 45	
att acc tgt gag tcc cgc cta cac act cct atg tac ttt ctc ctg cgg	192
Ile Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Arg	
50 55 60	
aac aaa tca gtc ctg gac atc gtt ttt tca tct atc acc gtc ccc aag	240
Asn Lys Ser Val Leu Asp Ile Val Phe Ser Ser Ile Thr Val Pro Lys	
65 70 75 80	
ttc ctg gtg gat ctt tta tca gac agg aaa acc atc tcc tac aat gac	288
Phe Leu Val Asp Leu Leu Ser Asp Arg Lys Thr Ile Ser Tyr Asn Asp	
85 90 95	
tgc atg gca cag atc ttt ttc ttc cac ttt gct ggt ggg gca gat att	336
Cys Met Ala Gln Ile Phe Phe Phe His Phe Ala Gly Gly Ala Asp Ile	
100 105 110	
ttt ttc ctc tct gtg atg gcc tat gac aga tac ctt gca atc gcc aag	384
Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Ala Lys	
115 120 125	
ccc ctg cac tat gtg acc atg atg agg aaa gag gtg tgg gtg gcc ttg	432
Pro Leu His Tyr Val Thr Met Met Arg Lys Glu Val Trp Val Ala Leu	
130 135 140	
gtg gtg gct tct tgg gtg agt ggt ggt ttg cat tca atc atc cag gta	480
Val Val Ala Ser Trp Val Ser Gly Gly Leu His Ser Ile Ile Gln Val	
145 150 155 160	
att ctg atg ctt cca ttc ccc ttc tgt ggc ccc aac aca ctg gat gcc	528
Ile Leu Met Leu Pro Phe Pro Phe Cys Gly Pro Asn Thr Leu Asp Ala	
165 170 175	
ttc tac tgt tat gtg ctc cag gtg gta aaa ctg gcc tgc act gac acc	576
Phe Tyr Cys Tyr Val Leu Gln Val Val Lys Leu Ala Cys Thr Asp Thr	
180 185 190	
ttt gct ttg gag ctt ttc atg atc tct aac aac gga ctg gtg acc ctg	624
Phe Ala Leu Glu Leu Phe Met Ile Ser Asn Asn Gly Leu Val Thr Leu	
195 200 205	
ctc tgg ttc ctc ctg ctc ctg ggc tcc tac act gtc att ctg gtg atg	672

Leu Trp Phe Leu Leu Leu Leu Gly Ser Tyr Thr Val Ile Leu Val Met  
 210 215 220  
 ctg aga tcc cac tct ggg gag ggg cgg aac aag gcc ctc tcc acg tgc 720  
 Leu Arg Ser His Ser Gly Glu Gly Arg Asn Lys Ala Leu Ser Thr Cys  
 225 230 235 240  
 acg tcc cac atg ctg gtg gtg act ctt cac ttc gtg cct tgt gtt tac 768  
 Thr Ser His Met Leu Val Val Thr Leu His Phe Val Pro Cys Val Tyr  
 245 250 255  
 atc tac tgc cgg ccc ttc atg acg ctg ccc atg gac aca acc ata tcc 816  
 Ile Tyr Cys Arg Pro Phe Met Thr Leu Pro Met Asp Thr Thr Ile Ser  
 260 265 270  
 att aat aac acg gtc att acc ccc atg ctg aac ccc atc atc tat tcc 864  
 Ile Asn Asn Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285  
 ctg aga aat caa gag atg aag tca gcc atg cag agg ctg cag agg aga 912  
 Leu Arg Asn Gln Glu Met Lys Ser Ala Met Gln Arg Leu Gln Arg Arg  
 290 295 300  
 ctt ggg cct tcc gag agc aga aaa tgg ggg tga 945  
 Leu Gly Pro Ser Glu Ser Arg Lys Trp Gly  
 305 310

<210> 210  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 210

Met Asp Gln Ile Asn His Thr Asn Val Lys Glu Phe Phe Phe Leu Glu  
1 5 10 15

Leu Thr Arg Ser Arg Glu Leu Glu Phe Phe Leu Phe Val Val Phe Phe  
20 25 30

Ala Val Tyr Val Ala Thr Val Leu Gly Asn Ala Leu Ile Val Val Thr  
35 40 45

Ile Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Arg  
50 55 60

Asn Lys Ser Val Leu Asp Ile Val Phe Ser Ser Ile Thr Val Pro Lys  
65 70 75 80

Phe Leu Val Asp Leu Leu Ser Asp Arg Lys Thr Ile Ser Tyr Asn Asp  
85 90 95

Cys Met Ala Gln Ile Phe Phe Phe His Phe Ala Gly Gly Ala Asp Ile  
100 105 110

Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Ala Lys  
 115 120 125

Pro Leu His Tyr Val Thr Met Met Arg Lys Glu Val Trp Val Ala Leu  
 130 135 140

Val Val Ala Ser Trp Val Ser Gly Gly Leu His Ser Ile Ile Gln Val  
 145 150 155 160

Ile Leu Met Leu Pro Phe Pro Phe Cys Gly Pro Asn Thr Leu Asp Ala  
 165 170 175

Phe Tyr Cys Tyr Val Leu Gln Val Val Lys Leu Ala Cys Thr Asp Thr  
 180 185 190

Phe Ala Leu Glu Leu Phe Met Ile Ser Asn Asn Gly Leu Val Thr Leu  
 195 200 205

Leu Trp Phe Leu Leu Leu Leu Gly Ser Tyr Thr Val Ile Leu Val Met  
 210 215 220

Leu Arg Ser His Ser Gly Glu Gly Arg Asn Lys Ala Leu Ser Thr Cys  
 225 230 235 240

Thr Ser His Met Leu Val Val Thr Leu His Phe Val Pro Cys Val Tyr  
 245 250 255

Ile Tyr Cys Arg Pro Phe Met Thr Leu Pro Met Asp Thr Thr Ile Ser  
 260 265 270

Ile Asn Asn Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285

Leu Arg Asn Gln Glu Met Lys Ser Ala Met Gln Arg Leu Gln Arg Arg  
 290 295 300

Leu Gly Pro Ser Glu Ser Arg Lys Trp Gly  
 305 310

<210> 211

<211> 948

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

&lt;222&gt; (1)..(945)

&lt;223&gt;

&lt;400&gt; 211

atg gag acg tgg gtg aac cag tcc tac aca gat ggc ttc ttc ctc tta	48
Met Glu Thr Trp Val Asn Gln Ser Tyr Thr Asp Gly Phe Phe Leu Leu	
1 5 10 15	
ggc atc ttc tcc cac agt act gct gac ctt gtc ctc ttc tcc gtg gtt	96
Gly Ile Phe Ser His Ser Thr Ala Asp Leu Val Leu Phe Ser Val Val	
20 25 30	
atg gcg gtc ttc aca gtg gcc ctc tgt ggg aat gtc ctc ctc atc ttc	144
Met Ala Val Phe Thr Val Ala Leu Cys Gly Asn Val Leu Leu Ile Phe	
35 40 45	
ctc atc tac atg gac cct cac ctt cac acc ccc atg tac ttc ttc ctc	192
Leu Ile Tyr Met Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu	
50 55 60	
agc cag ctc tcc ctc atg gac ctc atg ttg gtc tgt acc aat gtg cca	240
Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Thr Asn Val Pro	
65 70 75 80	
aag atg gca gcc aac ttc ctg tct ggc agg aag tcc atc tcc ttt gtg	288
Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val	
85 90 95	
ggc tgt ggc ata caa att ggc ctc ttt gtc tgt ctt gtg gga tct gag	336
Gly Cys Gly Ile Gln Ile Gly Leu Phe Val Cys Leu Val Gly Ser Glu	
100 105 110	
ggg ctc ttg ctg gga ctc atg gct tat gac cgc tat gtg gcc att agc	384
Gly Leu Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser	
115 120 125	
cac cca ctt cac tat ccc atc ctc atg aat cag agg gtc tgt ctc cag	432
His Pro Leu His Tyr Pro Ile Leu Met Asn Gln Arg Val Cys Leu Gln	
130 135 140	
att act ggg agc tcc tgg gcc ttt ggg ata atc gat ggc ttg atc cag	480
Ile Thr Gly Ser Ser Trp Ala Phe Gly Ile Ile Asp Gly Leu Ile Gln	
145 150 155 160	
atg gtg gta gta atg aat ttc ccc tac tgt ggc ttg agg aag gtg aac	528
Met Val Val Val Met Asn Phe Pro Tyr Cys Gly Leu Arg Lys Val Asn	
165 170 175	
cat ttc ttc tgt gag atg cta tcc ttg ttg aag ctg gcc tgt gta gac	576
His Phe Phe Cys Glu Met Leu Ser Leu Leu Lys Leu Ala Cys Val Asp	
180 185 190	
aca tcc ctg ttt gag aag gtg ata ttt gct tgc tgt gtc ttc atg ctt	624
Thr Ser Leu Phe Glu Lys Val Ile Phe Ala Cys Cys Val Phe Met Leu	
195 200 205	
ctc ttc cca ttc tcc atc atc gtg gcc tcc tat gct cac att cta ggg	672
Leu Phe Pro Phe Ser Ile Ile Val Ala Ser Tyr Ala His Ile Leu Gly	
210 215 220	



act gtg ctg caa atg cac tct gct cag gcc tgg aaa aag gcc ctg gcc 720  
 Thr Val Leu Gln Met His Ser Ala Gln Ala Trp Lys Lys Ala Leu Ala  
 225 230 235 240

acc tgc tcc tcc cac ctg aca gct gtc acc ctc ttc tat ggg gca gcc 768  
 Thr Cys Ser Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ala Ala  
 245 250 255

atg ttc atc tac ctg agg cct agg cac tac cgg gcc ccc agc cat gac 816  
 Met Phe Ile Tyr Leu Arg Pro Arg His Tyr Arg Ala Pro Ser His Asp  
 260 265 270

aag gtg gcc tct atc ttc tac acg gtc ctt act ccc atg ctc aac ccc 864  
 Lys Val Ala Ser Ile Phe Tyr Thr Val Leu Thr Pro Met Leu Asn Pro  
 275 280 285

ctc att tac agc ttg agg aac agg gag gtg atg ggg gca ctg agg aag 912  
 Leu Ile Tyr Ser Leu Arg Asn Arg Glu Val Met Gly Ala Leu Arg Lys  
 290 295 300

ggg ctg gac cgc tgc agg atc ggc agc cag cac tga 948  
 Gly Leu Asp Arg Cys Arg Ile Gly Ser Gln His  
 305 310 315

<210> 212

<211> 315

<212> PRT

<213> Homo Sapiens

<400> 212

Met Glu Thr Trp Val Asn Gln Ser Tyr Thr Asp Gly Phe Phe Leu Leu  
 1 5 10 15

Gly Ile Phe Ser His Ser Thr Ala Asp Leu Val Leu Phe Ser Val Val  
 20 25 30

Met Ala Val Phe Thr Val Ala Leu Cys Gly Asn Val Leu Leu Ile Phe  
 35 40 45

Leu Ile Tyr Met Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Thr Asn Val Pro  
 65 70 75 80

Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val  
 85 90 95

Gly Cys Gly Ile Gln Ile Gly Leu Phe Val Cys Leu Val Gly Ser Glu  
 100 105 110

Gly Leu Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser

115	120	125
His Pro Leu His Tyr Pro Ile Leu Met Asn Gln Arg Val Cys Leu Gln		
130	135	140
Ile Thr Gly Ser Ser Trp Ala Phe Gly Ile Ile Asp Gly Leu Ile Gln		
145	150	155
Met Val Val Val Met Asn Phe Pro Tyr Cys Gly Leu Arg Lys Val Asn		
165	170	175
His Phe Phe Cys Glu Met Leu Ser Leu Leu Lys Leu Ala Cys Val Asp		
180	185	190
Thr Ser Leu Phe Glu Lys Val Ile Phe Ala Cys Cys Val Phe Met Leu		
195	200	205
Leu Phe Pro Phe Ser Ile Ile Val Ala Ser Tyr Ala His Ile Leu Gly		
210	215	220
Thr Val Leu Gln Met His Ser Ala Gln Ala Trp Lys Lys Ala Leu Ala		
225	230	235
Thr Cys Ser Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ala Ala		
245	250	255
Met Phe Ile Tyr Leu Arg Pro Arg His Tyr Arg Ala Pro Ser His Asp		
260	265	270
Lys Val Ala Ser Ile Phe Tyr Thr Val Leu Thr Pro Met Leu Asn Pro		
275	280	285
Leu Ile Tyr Ser Leu Arg Asn Arg Glu Val Met Gly Ala Leu Arg Lys		
290	295	300
Gly Leu Asp Arg Cys Arg Ile Gly Ser Gln His		
305	310	315

<210> 213  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

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<400> 213
atg aaa atc ttc aac agc ccc agc aac tcc agc acc ttc act ggc ttc      48
Met Lys Ile Phe Asn Ser Pro Ser Asn Ser Ser Thr Phe Thr Gly Phe
1          5          10          15

atc ctc ctg ggc ttc cct tgc ccc agg gag ggg cag atc ctc ctc ttt      96
Ile Leu Leu Gly Phe Pro Cys Pro Arg Glu Gly Gln Ile Leu Leu Phe
20          25          30

gtg ctc ttc act gtt gtt tac ctc ctg acc ctc atg ggc aat ggt tcc      144
Val Leu Phe Thr Val Val Tyr Leu Leu Thr Leu Met Gly Asn Gly Ser
35          40          45

atc atc tgt gct gtg cac tgg gat cag aga ctc cac gcc ccc atg tac      192
Ile Ile Cys Ala Val His Trp Asp Gln Arg Leu His Ala Pro Met Tyr
50          55          60

atc ctg ctc gcc aac ttc tcc ttc ttg gag ata tgt tat gtc acc tcc      240
Ile Leu Leu Ala Asn Phe Ser Phe Leu Glu Ile Cys Tyr Val Thr Ser
65          70          75          80

aca gtc ccc agc atg ctg gcc aac ttc ctc tct gac acc aag atc atc      288
Thr Val Pro Ser Met Leu Ala Asn Phe Leu Ser Asp Thr Lys Ile Ile
85          90          95

tcg ttc tct ggc tgc ttc ctc cag ttc tac ttt ttc ttc tcc ttg ggc      336
Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly
100          105          110

tct aca gaa tgc ttt ttc ctg gca gtt atg gca ttt gat cga tac ctt      384
Ser Thr Glu Cys Phe Phe Leu Ala Val Met Ala Phe Asp Arg Tyr Leu
115          120          125

gcc atc tgt cgg cct cta cgc tat cca acc att atg acc aga cgt ctc      432
Ala Ile Cys Arg Pro Leu Arg Tyr Pro Thr Ile Met Thr Arg Arg Leu
130          135          140

tgt acc aat ctt gtg gtc aat tgc tgg gta ctt ggt ttc atc tgg ttc      480
Cys Thr Asn Leu Val Val Asn Cys Trp Val Leu Gly Phe Ile Trp Phe
145          150          155          160

ttg att cct atc gtc aac atc tcc caa atg tcc ttc tgt gga tct agg      528
Leu Ile Pro Ile Val Asn Ile Ser Gln Met Ser Phe Cys Gly Ser Arg
165          170          175

att att gac cac ttc cta tgt gac cca gct cct ctt cta act ctc act      576
Ile Ile Asp His Phe Leu Cys Asp Pro Ala Pro Leu Leu Thr Leu Thr
180          185          190

tgc aaa aaa ggc cct gtg ata gag ctt gtc ttt tct gtc tta agt cct      624
Cys Lys Lys Gly Pro Val Ile Glu Leu Val Phe Ser Val Leu Ser Pro
195          200          205

ctg cct gtc ttt atg ctc ttt ctc ttc att gtg ggg tcc tat gct ctg      672
Leu Pro Val Phe Met Leu Phe Leu Phe Ile Val Gly Ser Tyr Ala Leu
210          215          220

gtc gtg aga gct gtg ttg agg gtc cct tca gca gct ggg aga aga aag      720
Val Val Arg Ala Val Leu Arg Val Pro Ser Ala Ala Gly Arg Arg Lys
225          230          235          240

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<210> 214
<211> 311
<212> PRT
<213> Homo Sapiens
<400> 214
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Met Lys Ile Phe Asn Ser Pro Ser Asn Ser Ser Thr Phe Thr Gly Phe  
1 5 10 15

Ile Leu Leu Gly Phe Pro Cys Pro Arg Glu Gly Gln Ile Leu Leu Phe  
20 25 30

Val Leu Phe Thr Val Val Tyr Leu Leu Thr Leu Met Gly Asn Gly Ser  
35 40 45

Ile Ile Cys Ala Val His Trp Asp Gln Arg Leu His Ala Pro Met Tyr  
50 55 60

Ile Leu Leu Ala Asn Phe Ser Phe Leu Glu Ile Cys Tyr Val Thr Ser  
65 70 75 80

Thr Val Pro Ser Met Leu Ala Asn Phe Leu Ser Asp Thr Lys Ile Ile  
85 90 95

Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly  
100 105 110

Ser Thr Glu Cys Phe Phe Leu Ala Val Met Ala Phe Asp Arg Tyr Leu  
115 120 125

Ala Ile Cys Arg Pro Leu Arg Tyr Pro Thr Ile Met Thr Arg Arg Leu  
 130 135 140

Cys Thr Asn Leu Val Val Asn Cys Trp Val Leu Gly Phe Ile Trp Phe  
 145 150 155 160

Leu Ile Pro Ile Val Asn Ile Ser Gln Met Ser Phe Cys Gly Ser Arg  
 165 170 175

Ile Ile Asp His Phe Leu Cys Asp Pro Ala Pro Leu Leu Thr Leu Thr  
 180 185 190

Cys Lys Lys Gly Pro Val Ile Glu Leu Val Phe Ser Val Leu Ser Pro  
 195 200 205

Leu Pro Val Phe Met Leu Phe Leu Phe Ile Val Gly Ser Tyr Ala Leu  
 210 215 220

Val Val Arg Ala Val Leu Arg Val Pro Ser Ala Ala Gly Arg Arg Lys  
 225 230 235 240

Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr  
 245 250 255

Gly Ser Val Leu Val Met Tyr Gly Ser Pro Pro Ser Lys Asn Glu Ala  
 260 265 270

Gly Lys Gln Lys Thr Val Thr Leu Phe Tyr Ser Val Val Thr Pro Leu  
 275 280 285

Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Lys Asp Met Arg Lys Ala  
 290 295 300

Leu Lys Lys Phe Trp Gly Thr  
 305 310

<210> 215  
 <211> 993  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(990)  
 <223>

<400> 215  
 atg ttc ttt att att cat tct ttg gtt act tct gtt ttt cta aca gct

Met Phe Phe Ile Ile His Ser Leu Val Thr Ser Val Phe Leu Thr Ala	
1 5 10 15	
ttg gga ccc cag aac aga aca atg cat ttt gtg act gag ttt gtc ctc	96
Leu Gly Pro Gln Asn Arg Thr Met His Phe Val Thr Glu Phe Val Leu	
20 25 30	
ctg ggt ttc cat ggt caa agg gag atg cag agc tgc ttc ttc tca ttc	144
Leu Gly Phe His Gly Gln Arg Glu Met Gln Ser Cys Phe Phe Ser Phe	
35 40 45	
atc ctg gtt ctc tat ctc ctg aca ctg cta ggg aat gga gct att gtc	192
Ile Leu Val Leu Tyr Leu Leu Thr Leu Leu Gly Asn Gly Ala Ile Val	
50 55 60	
tgt gca gtg aaa ttg gac agg cgg ctc cac aca ccc atg tac atc ctt	240
Cys Ala Val Lys Leu Asp Arg Arg Leu His Thr Pro Met Tyr Ile Leu	
65 70 75 80	
ctg gga aac ttt gcc ttt cta gag atc tgg tac att tcc tcc act gtc	288
Leu Gly Asn Phe Ala Phe Leu Glu Ile Trp Tyr Ile Ser Ser Thr Val	
85 90 95	
cca aac atg cta gtc aat atc ctc tct gag att aaa acc atc tcc ttc	336
Pro Asn Met Leu Val Asn Ile Leu Ser Glu Ile Lys Thr Ile Ser Phe	
100 105 110	
tct ggt tgc ttc ctg caa ttc tat ttc ttt ttt tca ctg ggt aca aca	384
Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr	
115 120 125	
gag tgt ttc ttt tta tca gtt atg gct tat gat cgg tac ctg gcc atc	432
Glu Cys Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile	
130 135 140	
tgt cgt cca tta cac tac ccc tcc atc atg act ggg aag ttc tgt ata	480
Cys Arg Pro Leu His Tyr Pro Ser Ile Met Thr Gly Lys Phe Cys Ile	
145 150 155 160	
att ctg gtc tgt gta tgc tgg gta ggc gga ttt ctc tgc tat cca gtc	528
Ile Leu Val Cys Val Cys Trp Val Gly Gly Phe Leu Cys Tyr Pro Val	
165 170 175	
cct att gtt ctt atc tcc caa ctt ccc ttc tgt ggg ccc aac atc att	576
Pro Ile Val Leu Ile Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile	
180 185 190	
gac cac ttg gtg tgt gac cca ggc cca ttg ttt gca ctg gcc tgc atc	624
Asp His Leu Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Ala Cys Ile	
195 200 205	
tct gct cct tcc act gag ctt atc tgt tac acc ttc aac tcg atg att	672
Ser Ala Pro Ser Thr Glu Leu Ile Cys Tyr Thr Phe Asn Ser Met Ile	
210 215 220	
atc ttt ggg ccc ttc ctc tcc atc ttg gga tct tac act ctg gtc atc	720
Ile Phe Gly Pro Phe Leu Ser Ile Leu Gly Ser Tyr Thr Leu Val Ile	
225 230 235 240	
aga gct gtg ctt tgt att ccc tct ggt gct ggt cga act aaa gct ttc	768
Arg Ala Val Leu Cys Ile Pro Ser Gly Ala Gly Arg Thr Lys Ala Phe	

245	250	255	
tcc aca tgt ggg tcc cac cta atg gtg gtg tct cta ttc tat gga acc			816
Ser Thr Cys Gly Ser His Leu Met Val Val Ser Leu Phe Tyr Gly Thr			
260	265	270	
ctt atg gtg atg tat gtg agc cca aca tca ggg aac cca gca gga atg			864
Leu Met Val Met Tyr Val Ser Pro Thr Ser Gly Asn Pro Ala Gly Met			
275	280	285	
cag aag atc atc act ctg gta tac aca gca atg act cca ttc tta aat			912
Gln Lys Ile Ile Thr Leu Val Tyr Thr Ala Met Thr Pro Phe Leu Asn			
290	295	300	
ccc ctt atc tat agt ctt cga aac aaa gac atg aaa gat gct cta aag			960
Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys			
305	310	315	320
aga gtc ctg ggg tta aca gtt agc caa aac tga			993
Arg Val Leu Gly Leu Thr Val Ser Gln Asn			
325	330		

<210> 216  
 <211> 330  
 <212> PRT  
 <213> Homo Sapiens

<400> 216

Met Phe Phe Ile Ile His Ser Leu Val Thr Ser Val Phe Leu Thr Ala  
 1 5 10 15

Leu Gly Pro Gln Asn Arg Thr Met His Phe Val Thr Glu Phe Val Leu  
 20 25 30

Leu Gly Phe His Gly Gln Arg Glu Met Gln Ser Cys Phe Phe Ser Phe  
 35 40 45

Ile Leu Val Leu Tyr Leu Leu Thr Leu Leu Gly Asn Gly Ala Ile Val  
 50 55 60

Cys Ala Val Lys Leu Asp Arg Arg Leu His Thr Pro Met Tyr Ile Leu  
 65 70 75 80

Leu Gly Asn Phe Ala Phe Leu Glu Ile Trp Tyr Ile Ser Ser Thr Val  
 85 90 95

Pro Asn Met Leu Val Asn Ile Leu Ser Glu Ile Lys Thr Ile Ser Phe  
 100 105 110

Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr  
 115 120 125

Glu Cys Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile  
 130 135 140

Cys Arg Pro Leu His Tyr Pro Ser Ile Met Thr Gly Lys Phe Cys Ile  
 145 150 155 160

Ile Leu Val Cys Val Cys Trp Val Gly Gly Phe Leu Cys Tyr Pro Val  
 165 170 175

Pro Ile Val Leu Ile Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile  
 180 185 190

Asp His Leu Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Ala Cys Ile  
 195 200 205

Ser Ala Pro Ser Thr Glu Leu Ile Cys Tyr Thr Phe Asn Ser Met Ile  
 210 215 220

Ile Phe Gly Pro Phe Leu Ser Ile Leu Gly Ser Tyr Thr Leu Val Ile  
 225 230 235 240

Arg Ala Val Leu Cys Ile Pro Ser Gly Ala Gly Arg Thr Lys Ala Phe  
 245 250 255

Ser Thr Cys Gly Ser His Leu Met Val Val Ser Leu Phe Tyr Gly Thr  
 260 265 270

Leu Met Val Met Tyr Val Ser Pro Thr Ser Gly Asn Pro Ala Gly Met  
 275 280 285

Gln Lys Ile Ile Thr Leu Val Tyr Thr Ala Met Thr Pro Phe Leu Asn  
 290 295 300

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys  
 305 310 315 320

Arg Val Leu Gly Leu Thr Val Ser Gln Asn  
 325 330

<210> 217

<211> 975

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (972)



&lt;223&gt;

&lt;400&gt; 217

atg tct ttc ttc ttt gta gac tta aga ccc atg aac agg tca gca aca	48
Met Ser Phe Phe Phe Val Asp Leu Arg Pro Met Asn Arg Ser Ala Thr	
1 5 10 15	
cac atc gtg aca gag ttt att ctc ctg gga ttc cct ggt tgc tgg aag	96
His Ile Val Thr Glu Phe Ile Leu Leu Gly Phe Pro Gly Cys Trp Lys	
20 25 30	
att cag att ttc ctc ttc tca ttg ttt ttg gtg att tat gtc ttg acc	144
Ile Gln Ile Phe Leu Phe Ser Leu Phe Leu Val Ile Tyr Val Leu Thr	
35 40 45	
ttg ctg gga aat gga gcc atc atc tat gca gtg aga tgc aac cca cta	192
Leu Leu Gly Asn Gly Ala Ile Ile Tyr Ala Val Arg Cys Asn Pro Leu	
50 55 60	
cta cac acc ccc atg tac ttt ctg ctg gga aat ttt gcc ttc ctt gag	240
Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ala Phe Leu Glu	
65 70 75 80	
atc tgg tat gtg tcc tcc act att cct aac atg cta gtc aac att ctc	288
Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Met Leu Val Asn Ile Leu	
85 90 95	
tcc aag acc aag gcc atc tca ttt tct ggg tgc ttc ctc cag ttc tat	336
Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr	
100 105 110	
ttc ttc ttt tca ctg gga aca act gaa tgt ctc ttt ctg gca gta atg	384
Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met	
115 120 125	
gct tat gat cga tac ctg gcc atc tgc cac cca ctg cag tac cct gcc	432
Ala Tyr Asp Arg Tyr Leu Ala Ile Cys His Pro Leu Gln Tyr Pro Ala	
130 135 140	
atc atg act gta agg ttc tgt ggt aag ctg gtg tct ttc tgt tgg ctt	480
Ile Met Thr Val Arg Phe Cys Gly Lys Leu Val Ser Phe Cys Trp Leu	
145 150 155 160	
att gga ttc ctt gga tac cca att ccc att ttc tac atc tcc caa ctc	528
Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Tyr Ile Ser Gln Leu	
165 170 175	
ccc ttc tgt ggt cct aat atc att gat cac ttc ctg tgt gac atg gac	576
Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp	
180 185 190	
cca ttg atg gct cta tcc tgt gcc cca gct ccc ata act gaa tgt att	624
Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Cys Ile	
195 200 205	
ttc tat act cag agc tcc ctt gtc ctc ttt ttc act agt atg tac att	672
Phe Tyr Thr Gln Ser Ser Leu Val Leu Phe Phe Thr Ser Met Tyr Ile	
210 215 220	
ctt cga tcc tat atc ctg tta cta aca gct gtt ttt cag gtc cct tct	720

Leu Arg Ser Tyr Ile Leu Leu Leu Thr Ala Val Phe Gln Val Pro Ser  
 225 230 235 240  
 gca gct ggt cgg aga aaa gcc ttc tct acc tgt ggt tct cat ttg gtt 768  
 Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val  
 245 250 255  
 gtg gta tct ctt ttc tat ggg aca gtc atg gta atg tat gta agt cct 816  
 Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro  
 260 265 270  
 aca tat ggg atc cca act tta ttg cag aag atc ctc aca ctg gta tat 864  
 Thr Tyr Gly Ile Pro Thr Leu Leu Gln Lys Ile Leu Thr Leu Val Tyr  
 275 280 285  
 tca gta acg act cct ctt ttt aat cct ctg atc tat act ctt cgt aat 912  
 Ser Val Thr Thr Pro Leu Phe Asn Pro Leu Ile Tyr Thr Leu Arg Asn  
 290 295 300  
 aag gac atg aaa ctc gct ctg aga aat gtc ctg ttt gga atg aga att 960  
 Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Phe Gly Met Arg Ile  
 305 310 315 320  
 cgt caa aat tcg tga 975  
 Arg Gln Asn Ser

<210> 218  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 218

Met Ser Phe Phe Phe Val Asp Leu Arg Pro Met Asn Arg Ser Ala Thr  
 1 5 10 15  
 His Ile Val Thr Glu Phe Ile Leu Leu Gly Phe Pro Gly Cys Trp Lys  
 20 25 30  
 Ile Gln Ile Phe Leu Phe Ser Leu Phe Leu Val Ile Tyr Val Leu Thr  
 35 40 45  
 Leu Leu Gly Asn Gly Ala Ile Ile Tyr Ala Val Arg Cys Asn Pro Leu  
 50 55 60  
 Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ala Phe Leu Glu  
 65 70 75 80  
 Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Met Leu Val Asn Ile Leu  
 85 90 95  
 Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr  
 100 105 110

Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met  
 115 120 125

Ala Tyr Asp Arg Tyr Leu Ala Ile Cys His Pro Leu Gln Tyr Pro Ala  
 130 135 140

Ile Met Thr Val Arg Phe Cys Gly Lys Leu Val Ser Phe Cys Trp Leu  
 145 150 155 160

Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Tyr Ile Ser Gln Leu  
 165 170 175

Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp  
 180 185 190

Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Cys Ile  
 195 200 205

Phe Tyr Thr Gln Ser Ser Leu Val Leu Phe Phe Thr Ser Met Tyr Ile  
 210 215 220

Leu Arg Ser Tyr Ile Leu Leu Leu Thr Ala Val Phe Gln Val Pro Ser  
 225 230 235 240

Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val  
 245 250 255

Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro  
 260 265 270

Thr Tyr Gly Ile Pro Thr Leu Leu Gln Lys Ile Leu Thr Leu Val Tyr  
 275 280 285

Ser Val Thr Thr Pro Leu Phe Asn Pro Leu Ile Tyr Thr Leu Arg Asn  
 290 295 300

Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Phe Gly Met Arg Ile  
 305 310 315 320

Arg Gln Asn Ser

<210> 219

<211> 933

<212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(930)

&lt;223&gt;

&lt;400&gt; 219

atg gca gag atg aac ctc acc ttg gtg acc gag ttc ctc ctt att gca	48
Met Ala Glu Met Asn Leu Thr Leu Val Thr Glu Phe Leu Leu Ile Ala	
1 5 10 15	

ttc act gaa tat cct gaa tgg gca ctc cct ctc ttc ctc ttg tta tta	96
Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Leu Leu	
20 25 30	

ttt atg tat ctc atc acc gta ttg ggg aac tta gag atg att att ctg	144
Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu	
35 40 45	

atc ctc atg gat cac cag ctc cac gct cca atg tat ttc ctt ctg agt	192
Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser	
50 55 60	

cac ctc gct ttc atg gac gtc tgc tac tca tct atc act gtc ccc cag	240
His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln	
65 70 75 80	

atg ctg gca gtg ctg ctg gag cat ggg gca gct tta tct tac aca cgc	288
Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg	
85 90 95	

tgt gct gct cag ttc ttt ctg ttc acc ttc ttt ggt tcc atc gac tgc	336
Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys	
100 105 110	

tac ctc ttg gcc ctc atg gcc tat gac cgc tac ttg gct gtg tgc cag	384
Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln	
115 120 125	

ccc ctg ctt tat gtc acc atc ctg aca cag cag gcc cgc ttg agt ctt	432
Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu	
130 135 140	

gtg gct ggg gct tac gtt gct ggt ctc atc agt gcc ttg gtg cgg aca	480
Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr	
145 150 155 160	

gtc tca gcc ttc act ctc tcc ttc tgt gga acc agt gag att gac ttt	528
Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe	
165 170 175	

att ttc tgt gac ctc cct cct ctg tta aag ttg acc tgt ggg gag agc	576
Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser	
180 185 190	

tac act caa gaa gtg ctg att att atg ttt gcc att ttt gtc atc cct	624
Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro	
195 200 205	

gct tcc atg gtg gtg atc ttg gtg tcc tac ctg ttt atc atc gtg gcc 672  
 Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala  
 210 215 220

atc atg ggg atc cct gct gga agc cag gcc aag acc ttc tcc acc tgc 720  
 Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys  
 225 230 235 240

acc tcc cac ctc act gct gtg tca ctc ttc ttt ggt acc ctc atc ttc 768  
 Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe  
 245 250 255

atg tac ttg aga ggt aac tca gat cag tct tcg gag aag aat cgg gta 816  
 Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val  
 260 265 270

gtg tct gtg ctt tac aca gag gtc atc ccc atg ttg aat ccc ctc atc 864  
 Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285

tac agc ctg agg aac aag gaa gtg aag gag gcc ctg aga aaa att ctc 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu  
 290 295 300

aat aga gcc aag ttg tcc taa 933  
 Asn Arg Ala Lys Leu Ser  
 305 310

<210> 220  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 220

Met Ala Glu Met Asn Leu Thr Leu Val Thr Glu Phe Leu Leu Ile Ala  
 1 5 10 15

Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Leu Leu  
 20 25 30

Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu  
 35 40 45

Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln  
 65 70 75 80

Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg  
 85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys

100	105	110
Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln 115	120	125
Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu 130	135	140
Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr 145	150	155
Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe 165	170	175
Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser 180	185	190
Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro 195	200	205
Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala 210	215	220
Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys 225	230	235
Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe 245	250	255
Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val 260	265	270
Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile 275	280	285
Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu 290	295	300
Asn Arg Ala Lys Leu Ser 305	310	

<210> 221  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>

<221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 221

atg ggg act gga aat gac acc act gtg gta gag ttt act ctt ttg ggg	48
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly	
1 5 10 15	
tta tct gag gat act aca gtt tgt gct att tta ttt ctt gtg ttt cta	96
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu	
20 25 30	
gga att tat gtt gtc acc tta atg ggt aat atc agc ata att gta ttg	144
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu	
35 40 45	
atc aga aga agt cat cat ctt cat aca ccc atg tac att ttc ctc tgc	192
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys	
50 55 60	
cat ttg gcc ttt gta gac att ggg tac tcc tca tca gtc aca cct gtc	240
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Val Thr Pro Val	
65 70 75 80	
atg ctc atg agc ttc cta agg aaa gaa acc tct ctc cct gtt gct ggt	288
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly	
85 90 95	
tgt gtg gcc cag ctc tgt tct gta gtg acg ttt ggt acg gcc gag tgc	336
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys	
100 105 110	
ttc ctg ctg gct gcc atg gcc tat gat cgc tat gtg gcc atc tgc tca	384
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	
ccc ctg ctc tac tct acc tgc atg tcc cct gga gtc tgc atc atc tta	432
Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu	
130 135 140	
gtg ggc atg tcc tac ctg ggt gga tgt gtg aat gct tgg aca ttc att	480
Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Trp Thr Phe Ile	
145 150 155 160	
ggc tgc tta tta aga ctg tcc ttc tgt ggg cca aat aaa gtc aat cac	528
Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His	
165 170 175	
ttt ttc tgt gac tat tca cca ctt ttg aag ctt gct tgt tcc cat gat	576
Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp	
180 185 190	
ttt act ttt gaa ata att cca gct atc tct tct gga tct atc att gtg	624
Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val	
195 200 205	
gcc act gtg tgt gtc ata gcc ata tcc tac atc tat atc ctc atc acc	672
Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr	
210 215 220	

atc ctg aag atg cac tcc acc aag ggc cgc cac aag gcc ttc tcc acc 720  
 Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgc acc tcc cac ctc act gca gtc act ctg ttc tat ggg acc att acc 768  
 Cys Thr Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Thr Ile Thr  
 245 250 255

ttc att tat gtg atg ccc aag tcc agc tac tca act gac cag aac aag 816  
 Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys  
 260 265 270

gtg gtg tct gtg ttc tac acc gtg gtg att ccc atg ttg aac ccc ctg 864  
 Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

atc tac agc ctc agg aac aag gag att aag ggg gct ctg aag aga gag 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu  
 290 295 300

ctt aga ata aaa ata ttt tct tga 936  
 Leu Arg Ile Lys Ile Phe Ser  
 305 310

<210> 222

<211> 311

<212> PRT

<213> Homo Sapiens

<400> 222

Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly  
 1 5 10 15

Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu  
 20 25 30

Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu  
 35 40 45

Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys  
 50 55 60

His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val  
 65 70 75 80

Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly  
 85 90 95

Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys  
 100 105 110



Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125  
 Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu  
 130 135 140  
 Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Trp Thr Phe Ile  
 145 150 155 160  
 Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His  
 165 170 175  
 Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp  
 180 185 190  
 Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val  
 195 200 205  
 Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr  
 210 215 220  
 Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Thr Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Thr Ile Thr  
 245 250 255  
 Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys  
 260 265 270  
 Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu  
 290 295 300  
 Leu Arg Ile Lys Ile Phe Ser  
 305 310

<210> 223  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

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<400> 223
atg tcc aac gcc agc ctc gtg aca gca ttc atc ctc aca ggc ctt ccc      48
Met Ser Asn Ala Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro
1          5          10          15

cat gcc cca ggg ctg gac gcc ctc ctc ttt gga atc ttc ctg gtg gtt      96
His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val
          20          25          30

tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg      144
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg
          35          40          45

gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg      192
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu
          50          55          60

tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg      240
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu
65          70          75          80

atg acc ttg gtg tcc cca agc ggc agg gct atc tcc ttc cac agc tgc      288
Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys
          85          90          95

gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc      336
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe
          100          105          110

ctc tac aca gtc atg tcc tat gat cgc tac ttg gcc atc agt tac ccg      384
Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro
          115          120          125

ctc agg tac acc agc atg atg agt ggg agc agg tgt gcc ctc ctg gcc      432
Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala
          130          135          140

acc ggc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata      480
Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile
145          150          155          160

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tac      528
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr
          165          170          175

ttc tgt gac gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca      576
Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser
          180          185          190

gcc aac gtg atg gtc atc ttt gtg gac att ggg ata gtg gcc tca ggc      624
Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly
          195          200          205

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc      672
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile
          210          215          220

ctg cgg atc cgc acc tca gat ggg agg cgc aga gcc ttt cag acc tgt      720
Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Arg Ala Phe Gln Thr Cys

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225                      230                      235                      240  
 gcc tcc cac tgt att gtg gtc ctt tgc ttc ttt gtt ccc tgt gtt gtc                      768  
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val  
                                  245                      250                      255  
 att tat ctg agg cca ggc tcc atg gat gcc atg gat gga gtt gtg gcc                      816  
 Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala  
                                  260                      265                      270  
 att ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc                      864  
 Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
                                  275                      280                      285  
 ctg aga aac aag gag gtg aag aaa gct gtg ttg aaa ctt aga gac aaa                      912  
 Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
                                  290                      295                      300  
 gta gca cat cct cag agg aaa taa                      936  
 Val Ala His Pro Gln Arg Lys  
 305                      310  
  
 <210> 224  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens  
  
 <400> 224  
  
 Met Ser Asn Ala Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro  
 1                      5                      10                      15  
  
 His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val  
                                  20                      25                      30  
  
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
                                  35                      40                      45  
  
 Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu  
                                  50                      55                      60  
  
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu  
 65                      70                      75                      80  
  
 Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
                                  85                      90                      95  
  
 Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
                                  100                      105                      110  
  
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
                                  115                      120                      125

Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
 130 135 140

Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly  
 195 200 205

Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Arg Ala Phe Gln Thr Cys  
 225 230 235 240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val  
 245 250 255

Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala  
 260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
 290 295 300

Val Ala His Pro Gln Arg Lys  
 305 310

<210> 225  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<220>

<221> misc\_feature  
 <222> (756)..(757)  
 <223> Uncertain nucleotide

<400> 225  
 atg tcc aag acc agc ctc gtg aca gcg ttc atc ctc acg ggc ctt ccc 48  
 Met Ser Lys Thr Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro  
 1 5 10 15

cat gcc cca ggg ctg gac gcc cca ctc ttt gga atc ttc ctg gtg gtt 96  
 His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val  
 20 25 30

tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg 144  
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45

gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg 192  
 Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60

tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg 240  
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu  
 65 70 75 80

atg acc ttg gtg tcc cca agc ggc agg gct atc tcc ttc cac agc tgc 288  
 Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
 85 90 95

gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc 336  
 Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
 100 105 110

ctc tac aca gtc atg tcc tat gat cgc tac ttg gcc atc agt tac ccg 384  
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125

ctc agg tac acc agc atg atg agt ggg agc aga tgt gcc ctc ctg gcc 432  
 Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
 130 135 140

acc agc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata 480  
 Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tat 528  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

ttg tgt gat gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576  
 Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

gcc aac gag atg gtc atc ttt gtg gac att ggg cta gtg gcc tcg ggc 624  
 Ala Asn Glu Met Val Ile Phe Val Asp Ile Gly Leu Val Ala Ser Gly  
 195 200 205

tgc ttt ctc ctg ata gtg ctg tct tat gtg tcc atc gtc tgt tcc atc 672  
 Cys Phe Leu Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

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ctg cgg atc cac acc tca gag ggg agg cac aga gcc ttt cag acc tgt      720
Leu Arg Ile His Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys
225                230                235                240

gcc tcc cac tgc atc gtg gtc ctt tgc ttt ttt gtn ncc tgt gtt ttc      768
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Xaa Cys Val Phe
                245                250                255

att tac ctg aga cca ggc tcc agg gac gtc gtg gat gga gtt gtg gcc      816
Ile Tyr Leu Arg Pro Gly Ser Arg Asp Val Val Asp Gly Val Val Ala
                260                265                270

att ttc tac act gtg ctg aca ccc ctt ctc aac cct gtt gtg tac acc      864
Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
                275                280                285

ctg aga aac aag gag gtg aag aaa gct gtg ttg aaa ctg aga gac aaa      912
Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys
                290                295                300

gta gca cat tct cag gga gaa taa      936
Val Ala His Ser Gln Gly Glu
305                310

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<210> 226
<211> 311
<212> PRT
<213> Homo Sapiens

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<220>
<221> misc_feature
<222> (253)..(253)
<223> The 'Xaa' at location 253 stands for Thr, Ala, Pro, or Ser.

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<220>
<221> misc_feature
<222> (756)..(757)
<223> Uncertain nucleotide

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<400> 226

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Met Ser Lys Thr Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro
1                5                10                15

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His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val
                20                25                30

```

```

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg
35                40                45

```

```

Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu
50                55                60

```

```

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu
65                70                75                80

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Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
                             85                            90                            95

Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
                             100                            105                            110

Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
                             115                            120                            125

Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
                             130                            135                            140

Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
                             145                            150                            155                            160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
                             165                            170                            175

Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
                             180                            185                            190

Ala Asn Glu Met Val Ile Phe Val Asp Ile Gly Leu Val Ala Ser Gly  
                             195                            200                            205

Cys Phe Leu Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
                             210                            215                            220

Leu Arg Ile His Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys  
                             225                            230                            235                            240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Xaa Cys Val Phe  
                             245                            250                            255

Ile Tyr Leu Arg Pro Gly Ser Arg Asp Val Val Asp Gly Val Val Ala  
                             260                            265                            270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
                             275                            280                            285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
                             290                            295                            300

Val Ala His Ser Gln Gly Glu  
                             305                            310

<210> 227  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 227  
 atg tcc aac gcc agc cta ctg aca gcg ttc atc ctc atg ggc ctt ccc 48  
 Met Ser Asn Ala Ser Leu Leu Thr Ala Phe Ile Leu Met Gly Leu Pro  
 1 5 10 15  
 cat gcc cca gcg ctg gac gcc ccc ctc ttt gga gtc ttc ctg gtg gtt 96  
 His Ala Pro Ala Leu Asp Ala Pro Leu Phe Gly Val Phe Leu Val Val  
 20 25 30  
 tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg 144  
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45  
 gtg gat tct cac ctc cac acc acc atg tac tac ttc ctc acc aac ctg 192  
 Val Asp Ser His Leu His Thr Thr Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60  
 tcg ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa ttg ctg 240  
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Leu Leu  
 65 70 75 80  
 atg act ttg gtg ttc cca agt ggc agg gct atc tcc ttc cac agc tgc 288  
 Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
 85 90 95  
 atg gct cag ctc tat ttc ttt cac ttc cta ggg ggc acc gag tgt ttc 336  
 Met Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Gly Thr Glu Cys Phe  
 100 105 110  
 ctc tac agg gtc atg tcc tgt gat cgc tac ctg gcc atc agt tac ccg 384  
 Leu Tyr Arg Val Met Ser Cys Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125  
 ctc agg tac acc agc atg atg act ggg cgc tcg tgt act ctt ctg gcc 432  
 Leu Arg Tyr Thr Ser Met Met Thr Gly Arg Ser Cys Thr Leu Leu Ala  
 130 135 140  
 acc agc act tgg ctc agt ggc tct ctg cac tct gct gtc cag gcc ata 480  
 Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Ala Ile  
 145 150 155 160  
 ttg act ttc cat ttg ccc tac tgt gga ccc aac tgg atc cag cac tat 528  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Trp Ile Gln His Tyr  
 165 170 175  
 ttg tgt gat gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576  
 Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190



gcc ata gag act gtc att ttt gtg act gtt gga ata gtg gcc tcg ggc 624  
 Ala Ile Glu Thr Val Ile Phe Val Thr Val Gly Ile Val Ala Ser Gly  
 195 200 205

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc 672  
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

ctg cgg atc cgc acc tca gag ggg aag cac aga gcc ttt cag acc tgt 720  
 Leu Arg Ile Arg Thr Ser Glu Gly Lys His Arg Ala Phe Gln Thr Cys  
 225 230 235 240

gcc tcc cac tgt atc gtg gtc ctt tgc ttc ttt ggc cct ggt ctt ttc 768  
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe  
 245 250 255

att tac ctg agg cca ggc tcc agg aaa gct gtg gat gga gtt gtg gcc 816  
 Ile Tyr Leu Arg Pro Gly Ser Arg Lys Ala Val Asp Gly Val Val Ala  
 260 265 270

gtt ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc 864  
 Val Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
 275 280 285

ctg agg aac aag gag gtg aag aaa gct ctg ttg aag ctg aaa gac aaa 912  
 Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asp Lys  
 290 295 300

gta gca cat tct cag agc aaa tag 936  
 Val Ala His Ser Gln Ser Lys  
 305 310

<210> 228  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 228

Met Ser Asn Ala Ser Leu Leu Thr Ala Phe Ile Leu Met Gly Leu Pro  
 1 5 10 15

His Ala Pro Ala Leu Asp Ala Pro Leu Phe Gly Val Phe Leu Val Val  
 20 25 30

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45

Val Asp Ser His Leu His Thr Thr Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Leu Leu  
 65 70 75 80

Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys

	85	90	95
Met Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Gly Thr Glu Cys Phe	100	105	110
Leu Tyr Arg Val Met Ser Cys Asp Arg Tyr Leu Ala Ile Ser Tyr Pro	115	120	125
Leu Arg Tyr Thr Ser Met Met Thr Gly Arg Ser Cys Thr Leu Leu Ala	130	135	140
Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Ala Ile	145	150	155
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Trp Ile Gln His Tyr	165	170	175
Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser	180	185	190
Ala Ile Glu Thr Val Ile Phe Val Thr Val Gly Ile Val Ala Ser Gly	195	200	205
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile	210	215	220
Leu Arg Ile Arg Thr Ser Glu Gly Lys His Arg Ala Phe Gln Thr Cys	225	230	235
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe	245	250	255
Ile Tyr Leu Arg Pro Gly Ser Arg Lys Ala Val Asp Gly Val Val Ala	260	265	270
Val Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr	275	280	285
Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asp Lys	290	295	300
Val Ala His Ser Gln Ser Lys	305	310	
<210>	229		
<211>	933		

<212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(930)  
 <223>

<400> 229  
 atg gat aaa gaa aac agc tca atg gtg act gag ttt atc ttc atg ggc 48  
 Met Asp Lys Glu Asn Ser Ser Met Val Thr Glu Phe Ile Phe Met Gly  
 1 5 10 15  
 atc acc cag gac cct cag atg gag atc atc ttc ttc gtg gtc ttc ctc 96  
 Ile Thr Gln Asp Pro Gln Met Glu Ile Ile Phe Phe Val Val Phe Leu  
 20 25 30  
 ata gtt tac ctg gtt aat gta gtg ggg aat att ggt atg att atc ctg 144  
 Ile Val Tyr Leu Val Asn Val Val Gly Asn Ile Gly Met Ile Ile Leu  
 35 40 45  
 att aca aca gac act cag ctt cac aca ccc atg tat ttt ttc ctc tgc 192  
 Ile Thr Thr Asp Thr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
 50 55 60  
 aac ctc tcc ttt gtt gac ctg ggc tac tcc tca gcc att gcc ccc agg 240  
 Asn Leu Ser Phe Val Asp Leu Gly Tyr Ser Ser Ala Ile Ala Pro Arg  
 65 70 75 80  
 atg ctg gct gac ttc cta aca aat cac aaa gtt atc tcc ttc tcc agc 288  
 Met Leu Ala Asp Phe Leu Thr Asn His Lys Val Ile Ser Phe Ser Ser  
 85 90 95  
 tgt gcc acc cag ttt gct ttt ttt gta ggt ttt gtg gat gct gag tgc 336  
 Cys Ala Thr Gln Phe Ala Phe Phe Val Gly Phe Val Asp Ala Glu Cys  
 100 105 110  
 tat gtc ctg gca gcc atg gcc tat ggt cgt ttt gtg gcc att tgt cga 384  
 Tyr Val Leu Ala Ala Met Ala Tyr Gly Arg Phe Val Ala Ile Cys Arg  
 115 120 125  
 ccc ctc cac tat agc acc ttc atg tcc aag cag gtc tgc ttg gct ctc 432  
 Pro Leu His Tyr Ser Thr Phe Met Ser Lys Gln Val Cys Leu Ala Leu  
 130 135 140  
 atg ctg ggc tct tac ctg gct ggt cta gtg agt tta gta gcc cac act 480  
 Met Leu Gly Ser Tyr Leu Ala Gly Leu Val Ser Leu Val Ala His Thr  
 145 150 155 160  
 acc ctc acc ttc agc ctg agt tac tgt ggt tcc aat atc atc aat cat 528  
 Thr Leu Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Ile Ile Asn His  
 165 170 175  
 ttc ttc tgc gaa atc cca cca ctc ttg gcc ctc tct tgc tca gac acc 576  
 Phe Phe Cys Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
 180 185 190  
 tac atc agt gag atc ttg ctc ttc agt ctg tgt ggc ttc att gaa ttc 624  
 Tyr Ile Ser Glu Ile Leu Leu Phe Ser Leu Cys Gly Phe Ile Glu Phe  
 195 200 205

agc acc atc ctc atc atc ttc atc tcc tat acc ttt atc ctt gtt gca 672  
 Ser Thr Ile Leu Ile Ile Phe Ile Ser Tyr Thr Phe Ile Leu Val Ala  
 210 215 220

atc atc aga atg cgt tca gct gaa ggc cgc ctt aag gct ttc tcc acc 720  
 Ile Ile Arg Met Arg Ser Ala Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240

tgc ggg tct cac ctt act ggc atc acc ctc ttc tat ggc aca gtc atg 768  
 Cys Gly Ser His Leu Thr Gly Ile Thr Leu Phe Tyr Gly Thr Val Met  
 245 250 255

ttt atg tac ctg agg cca aca tcc agc tac tcc ctg gac caa gac aag 816  
 Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Leu Asp Gln Asp Lys  
 260 265 270

tgg gcc tct gtg ttc tac acg gtt atc atc ccc atg tta aat ccc ttg 864  
 Trp Ala Ser Val Phe Tyr Thr Val Ile Ile Pro Met Leu Asn Pro Leu  
 275 280 285

atc tac agt ttg cgg aac aag gat gtg aaa gct gct ttc aaa aag cta 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Phe Lys Lys Leu  
 290 295 300

att gga aaa aaa tct caa taa 933  
 Ile Gly Lys Lys Ser Gln  
 305 310

<210> 230  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 230

Met Asp Lys Glu Asn Ser Ser Met Val Thr Glu Phe Ile Phe Met Gly  
 1 5 10 15

Ile Thr Gln Asp Pro Gln Met Glu Ile Ile Phe Phe Val Val Phe Leu  
 20 25 30

Ile Val Tyr Leu Val Asn Val Val Gly Asn Ile Gly Met Ile Ile Leu  
 35 40 45

Ile Thr Thr Asp Thr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
 50 55 60

Asn Leu Ser Phe Val Asp Leu Gly Tyr Ser Ser Ala Ile Ala Pro Arg  
 65 70 75 80

Met Leu Ala Asp Phe Leu Thr Asn His Lys Val Ile Ser Phe Ser Ser  
 85 90 95

Cys Ala Thr Gln Phe Ala Phe Phe Val Gly Phe Val Asp Ala Glu Cys  
                   100                                  105                                  110

Tyr Val Leu Ala Ala Met Ala Tyr Gly Arg Phe Val Ala Ile Cys Arg  
                   115                                  120                                  125

Pro Leu His Tyr Ser Thr Phe Met Ser Lys Gln Val Cys Leu Ala Leu  
                   130                                  135                                  140

Met Leu Gly Ser Tyr Leu Ala Gly Leu Val Ser Leu Val Ala His Thr  
                   145                                  150                                  155                                  160

Thr Leu Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Ile Ile Asn His  
                                   165                                  170                                  175

Phe Phe Cys Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
                                   180                                  185                                  190

Tyr Ile Ser Glu Ile Leu Leu Phe Ser Leu Cys Gly Phe Ile Glu Phe  
                   195                                  200                                  205

Ser Thr Ile Leu Ile Ile Phe Ile Ser Tyr Thr Phe Ile Leu Val Ala  
                   210                                  215                                  220

Ile Ile Arg Met Arg Ser Ala Glu Gly Arg Leu Lys Ala Phe Ser Thr  
                   225                                  230                                  235                                  240

Cys Gly Ser His Leu Thr Gly Ile Thr Leu Phe Tyr Gly Thr Val Met  
                                   245                                  250                                  255

Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Leu Asp Gln Asp Lys  
                   260                                  265                                  270

Trp Ala Ser Val Phe Tyr Thr Val Ile Ile Pro Met Leu Asn Pro Leu  
                   275                                  280                                  285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Phe Lys Lys Leu  
                   290                                  295                                  300

Ile Gly Lys Lys Ser Gln  
                   305                                  310

<210> 231  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(939)

&lt;223&gt;

&lt;400&gt; 231

atg aaa gag gtt cga ggc aga aat caa aca gaa gta aca gaa ttt ctc	48
Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val Thr Glu Phe Leu	
1 5 10 15	
ctc tta gga ctt tcc gac aat cca gat cta caa gga gtc ctc ttt gca	96
Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly Val Leu Phe Ala	
20 25 30	
ttg ttt ctg ttg atc tat atg gca aac atg gtg ggc aat ttg ggg atg	144
Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly Asn Leu Gly Met	
35 40 45	
att gta ttg att aag att gat ctc tgt ctc cac acc ccc atg tat ttc	192
Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr Pro Met Tyr Phe	
50 55 60	
ttt ctc agt agc ctc tct ttt gta gat gcc tct tac tct tct tcc gtc	240
Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr Ser Ser Ser Val	
65 70 75 80	
act ccc aag atg ctg gtg aac ctc atg gct gag aat aag gcc att tct	288
Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn Lys Ala Ile Ser	
85 90 95	
ttt cat gga tgt gct gcc cag ttc tac ttc ttt ggc tcc ttc ctg ggg	336
Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly Ser Phe Leu Gly	
100 105 110	
act gag tgc ttc ctg ttg gcc atg atg gca tat gac cgc tat gca gcc	384
Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp Arg Tyr Ala Ala	
115 120 125	
att tgg aac ccc ctg ctc tac cca gtt ctc gtg tct ggg aga att tgc	432
Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser Gly Arg Ile Cys	
130 135 140	
ttt ttg cta ata gct acc tcc ttc tta gca ggt tgt gga aat gca gcc	480
Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys Gly Asn Ala Ala	
145 150 155 160	
ata cat aca ggg atg act ttt agg ttg tcc ttt tgt ggt tct aat agg	528
Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Arg	
165 170 175	
atc aac cat ttc tac tgt gac acc ccg cca ctg ctc aaa ctc tct tgc	576
Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu Lys Leu Ser Cys	
180 185 190	
tct gat acc cac ttc aat ggc att gtg atc atg gca ttc tca agt ttt	624
Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala Phe Ser Ser Phe	
195 200 205	
att gtc atc agc tgt gtt atg att gtc ctc att tcc tac ctg tgt atc	672
Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser Tyr Leu Cys Ile	

210	215	220	
ttc att gcc gtc ttg aag atg cct tcg tta gag ggc agg cac aaa gcc			720
Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly Arg His Lys Ala			
225	230	235	240
ttc tcc acc tgt gcc tct tac ctc atg gct gtc acc ata ttc ttt gga			768
Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr Ile Phe Phe Gly			
245	250		255
aca atc ctc ttc atg tac ttg cgc cct aca tct agc tac tca atg gag			816
Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Met Glu			
260	265		270
caa gac aag gtt gtc tct gtc ttt tat aca gta ata atc cct gtg cta			864
Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile Ile Pro Val Leu			
275	280		285
aat ccc ctc atc tat agt tta aaa aat aag gat gta aaa aag gcc cta			912
Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val Lys Lys Ala Leu			
290	295		300
aag aag atc tta tgg aaa cac atc ttg tag			942
Lys Lys Ile Leu Trp Lys His Ile Leu			
305	310		
<210>	232		
<211>	313		
<212>	PRT		
<213>	Homo Sapiens		
<400>	232		
Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val Thr Glu Phe Leu			
1	5	10	15
Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly Val Leu Phe Ala			
20	25		30
Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly Asn Leu Gly Met			
35	40		45
Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr Pro Met Tyr Phe			
50	55		60
Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr Ser Ser Ser Val			
65	70	75	80
Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn Lys Ala Ile Ser			
85	90		95
Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly Ser Phe Leu Gly			
100	105		110

Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp Arg Tyr Ala Ala  
 115 120 125

Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser Gly Arg Ile Cys  
 130 135 140

Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys Gly Asn Ala Ala  
 145 150 155 160

Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Arg  
 165 170 175

Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu Lys Leu Ser Cys  
 180 185 190

Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala Phe Ser Ser Phe  
 195 200 205

Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser Tyr Leu Cys Ile  
 210 215 220

Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly Arg His Lys Ala  
 225 230 235 240

Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr Ile Phe Phe Gly  
 245 250 255

Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Met Glu  
 260 265 270

Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile Ile Pro Val Leu  
 275 280 285

Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val Lys Lys Ala Leu  
 290 295 300

Lys Lys Ile Leu Trp Lys His Ile Leu  
 305 310

<210> 233  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)



&lt;223&gt;

&lt;400&gt; 233

atg ttc tcc cca aac cac acc ata gtg aca gaa ttc att ctc ttg gga	48
Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ctg aca gac gac cca gtg cta gag aag atc ctg ttt ggg gta ttc ctt	96
Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu	
20 25 30	
gcg atc tac cta atc aca ctg gca ggc aac ctg tgc atg atc ctg ctg	144
Ala Ile Thr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu	
35 40 45	
atc agg acc aat tcc cac ctg caa aca ccc atg tat ttc ttc ctt ggc	192
Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly	
50 55 60	
cac ctc tcc ttt gta gac att tgc tat tct tcc aat gtt act cca aat	240
His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn	
65 70 75 80	
atg ctg cac aat ttc ctc tca gaa cag aag acc atc tcc tac gct gga	288
Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly	
85 90 95	
tgc ttc aca cag tgt ctt ctc ttc atc gcc ctg gtg atc act gag ttt	336
Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe	
100 105 110	
tac atc ctt gct tca atg gca ttg gat cgc tat gta gcc att tgc agc	384
Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	
cct ttg cat tac agt tcc agg atg tcc aag aac atc tgt gtc tgt ctg	432
Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu	
130 135 140	
gtc act atc cct tac atg tat ggg ttt ctt agt ggg ttc tct cag tca	480
Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser	
145 150 155 160	
ctg cta acc ttt cac tta tcc ttc tgt ggc tcc ctt gaa atc aat cat	528
Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His	
165 170 175	
ttc tac tgc gct gat cct cct ctt atc atg ctg gcc tgc tct gac acc	576
Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr	
180 185 190	
cgt gtc aaa aag atg gca atg ttt gta gtt gca ggc ttt aat ctc tca	624
Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser	
195 200 205	
agc tct ctc ttc atc att ctt ctg tcc tat ctt ttc att ttt gca gcg	672
Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala	
210 215 220	
atc ttc agg atc cgt tct gct gaa ggc agg cac aaa gcc ttt tct acg	720

Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 tgt gct tcc cac ctg aca ata gtc act ttg ttt tat gga acc ctc ttc 768  
 Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe  
 245 250 255  
 tgc atg tac gta agg cct cca tca gag aag tct gta gag gag tcc aaa 816  
 Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys  
 260 265 270  
 ata act gca gtc ttt tat act ttt ttg agc cca atg ctg aac cca ttg 864  
 Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu  
 275 280 285  
 atc tat agc cta cgg aac aca gat gta atc ctt gcc atg caa caa atg 912  
 Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met  
 290 295 300  
 att agg gga aaa tcc ttt cat aaa att gca gtt tag 948  
 Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val  
 305 310 315

<210> 234  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 234

Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu  
 20 25 30  
 Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu  
 35 40 45  
 Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn  
 65 70 75 80  
 Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly  
 85 90 95  
 Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe  
 100 105 110  
 Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu  
 130 135 140  
 Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser  
 145 150 155 160  
 Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His  
 165 170 175  
 Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr  
 180 185 190  
 Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser  
 195 200 205  
 Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala  
 210 215 220  
 Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe  
 245 250 255  
 Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys  
 260 265 270  
 Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met  
 290 295 300  
 Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val  
 305 310 315

<210> 235  
 <211> 918  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(912)  
 <223>

<400> 235  
 atg cag agg agc aat cat aca gtg act gag ttt ata ctg ctg ggc ttc 48  
 Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe  
 1 5 10 15

acc aca gac cca gga atg cag ctg ggc ctc ttc gtg gtg ttc ctg ggc 96  
 Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly  
 20 25 30

gtg tac tct ctc act gtg gta gga aat agc acc ctc atc gtg ttg atc 144  
 Val Tyr Ser Leu Thr Val Val Gly Asn Ser Thr Leu Ile Val Leu Ile  
 35 40 45

tgt aat gac tcc tgc ctc cac aca ccc atg tat ttt ttc act gga aat 192  
 Cys Asn Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Thr Gly Asn  
 50 55 60

ctg tcg ttt ctg gat ctc tgg tat tct tct gtc tac acc cca aag atc 240  
 Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val Tyr Thr Pro Lys Ile  
 65 70 75 80

cta gtg acc tgc atc tct gaa gac aaa agc atc tcc ttt gct ggc tgc 288  
 Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys  
 85 90 95

ctg tgt cag ttc ttc ttc tct gca ggg ctg gcc tat agt gag tgc tac 336  
 Leu Cys Gln Phe Phe Phe Ser Ala Gly Leu Ala Tyr Ser Glu Cys Tyr  
 100 105 110

ctg ctg gct gcc gtg gct tat gac cgc tac gtg gcc atc tcc aag ccc 384  
 Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro  
 115 120 125

ctg ctt tat gcc cag gcc atg tcc ata aag ctg tgt gca ttg ctg gta 432  
 Leu Leu Tyr Ala Gln Ala Met Ser Ile Lys Leu Cys Ala Leu Leu Val  
 130 135 140

gca gtc tca tat tgt ggt ggc ttt att aac tct tca atc atc acc aag 480  
 Ala Val Ser Tyr Cys Gly Gly Phe Ile Asn Ser Ser Ile Ile Thr Lys  
 145 150 155 160

aaa acg ttt tcc ttt aac ttc tgc cgt gaa aac atc att gat gac ttt 528  
 Lys Thr Phe Ser Phe Asn Phe Cys Arg Glu Asn Ile Ile Asp Asp Phe  
 165 170 175

ttc tgt gat ttg ctt ccc ttg gtg gag ctg gcc tgt ggc gag aag ggc 576  
 Phe Cys Asp Leu Leu Pro Leu Val Glu Leu Ala Cys Gly Glu Lys Gly  
 180 185 190

ggc tat aaa att atg atg tac ttc ctg ctg gcc tcc aat gtc atc tgc 624  
 Gly Tyr Lys Ile Met Met Tyr Phe Leu Leu Ala Ser Asn Val Ile Cys  
 195 200 205

ccc gca gtg ctc atc ctg gcc tcc tac ctc ttt atc atc acc agt gtc 672  
 Pro Ala Val Leu Ile Leu Ala Ser Tyr Leu Phe Ile Ile Thr Ser Val  
 210 215 220

ttg agg atc tcc tcc tcc aag ggc tac ctc aaa gcc ttc tcc aca tgc 720  
 Leu Arg Ile Ser Ser Ser Lys Gly Tyr Leu Lys Ala Phe Ser Thr Cys  
 225 230 235 240

tcc tcc cac ctg acc tct gtc act tta tac tat ggc tcc att ctc tac 768  
 Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr  
                   245                                  250                                  255

atc tac gct ctc ccc aga tct agc tat tct ttt gat atg gac aaa ata 816  
 Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile  
                   260                                  265                                  270

gtt tct aca ttt tac act gtg gta ttc ccc atg ttg aat ctc atg atc 864  
 Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile  
                   275                                  280                                  285

tac agc cta agg aat aag gat gtg aaa gag gct ctg aaa aaa ctt ctc 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu  
                   290                                  295                                  300

ccataa 918

<210> 236  
 <211> 304  
 <212> PRT  
 <213> Homo Sapiens

<400> 236

Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe  
 1                  5                                  10                                  15

Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly  
                   20                                  25                                  30

Val Tyr Ser Leu Thr Val Val Gly Asn Ser Thr Leu Ile Val Leu Ile  
                   35                                  40                                  45

Cys Asn Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Thr Gly Asn  
                   50                                  55                                  60

Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val Tyr Thr Pro Lys Ile  
 65                                  70                                  75                                  80

Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys  
                   85                                  90                                  95

Leu Cys Gln Phe Phe Phe Ser Ala Gly Leu Ala Tyr Ser Glu Cys Tyr  
                   100                                  105                                  110

Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro  
                   115                                  120                                  125

Leu Leu Tyr Ala Gln Ala Met Ser Ile Lys Leu Cys Ala Leu Leu Val  
                   130                                  135                                  140

Ala Val Ser Tyr Cys Gly Gly Phe Ile Asn Ser Ser Ile Ile Thr Lys  
 145 150 155 160

Lys Thr Phe Ser Phe Asn Phe Cys Arg Glu Asn Ile Ile Asp Asp Phe  
 165 170 175

Phe Cys Asp Leu Leu Pro Leu Val Glu Leu Ala Cys Gly Glu Lys Gly  
 180 185 190

Gly Tyr Lys Ile Met Met Tyr Phe Leu Leu Ala Ser Asn Val Ile Cys  
 195 200 205

Pro Ala Val Leu Ile Leu Ala Ser Tyr Leu Phe Ile Ile Thr Ser Val  
 210 215 220

Leu Arg Ile Ser Ser Ser Lys Gly Tyr Leu Lys Ala Phe Ser Thr Cys  
 225 230 235 240

Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr  
 245 250 255

Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile  
 260 265 270

Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu  
 290 295 300

<210> 237  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(936)  
 <223>

<400> 237  
 atg gaa gca gga aac caa aca gga ttt tta gag ttt atc ctt ctc gga 48  
 Met Glu Ala Gly Asn Gln Thr Gly Phe Leu Glu Phe Ile Leu Leu Gly  
 1 5 10 15

ctc tct gag gat cca gaa cta cag ccg ttc ata ttt ggg ctg ttc ctg 96  
 Leu Ser Glu Asp Pro Glu Leu Gln Pro Phe Ile Phe Gly Leu Phe Leu  
 20 25 30

tcc atg tac ctg gtg acg gtg ctg gga aac ctg ctc atc atc ctg gcc Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala 35 40 45	144
atc agc tct gac tcc cac ctc cac acc ccc atg tac ttc ttc ctc tcc Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser 50 55 60	192
aac ctg tcc tgg gtt gac atc tgt ttc agc act tgc atc gtc ccc aag Asn Leu Ser Trp Val Asp Ile Cys Phe Ser Thr Cys Ile Val Pro Lys 65 70 75 80	240
atg ctg gtg aac atc cag acc gag aac aaa gcc atc tcc tac atg gac Met Leu Val Asn Ile Gln Thr Glu Asn Lys Ala Ile Ser Tyr Met Asp 85 90 95	288
tgc ctc aca cag gtc tat ttc tcc atg ttt ttt cct att ctg gac acg Cys Leu Thr Gln Val Tyr Phe Ser Met Phe Phe Pro Ile Leu Asp Thr 100 105 110	336
cta ctc ctg acc gtg atg gcc tat gac cgg ttt gtg gct gtc tgc cac Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Phe Val Ala Val Cys His 115 120 125	384
cct ctg cac tat atg atc atc atg aac ccc cac ctc tgt ggc ctc ctg Pro Leu His Tyr Met Ile Ile Met Asn Pro His Leu Cys Gly Leu Leu 130 135 140	432
gtt ttt gtc acc tgg ctc att ggt gtc atg aca tcc ctc ctc cat att Val Phe Val Thr Trp Leu Ile Gly Val Met Thr Ser Leu Leu His Ile 145 150 155 160	480
tct ctg atg atg cat cta atc ttc tgt aaa gat ttt gaa att cca cat Ser Leu Met Met His Leu Ile Phe Cys Lys Asp Phe Glu Ile Pro His 165 170 175	528
ttt ttc tgc gaa ctg acg tac atc ctc cag ctg gcc tgc tct gat acc Phe Phe Cys Glu Leu Thr Tyr Ile Leu Gln Leu Ala Cys Ser Asp Thr 180 185 190	576
ttc ctg aac agc acg ttg ata tac ttt atg acg ggt gtg ctg ggc gtt Phe Leu Asn Ser Thr Leu Ile Tyr Phe Met Thr Gly Val Leu Gly Val 195 200 205	624
ttt ccc ctc ctt ggg atc att ttc tct tat tca cga att gct tca tcc Phe Pro Leu Leu Gly Ile Ile Phe Ser Tyr Ser Arg Ile Ala Ser Ser 210 215 220	672
ata agg aag atg tcc tca tct ggg gga aaa caa aaa gca ctt tcc acc Ile Arg Lys Met Ser Ser Ser Gly Gly Lys Gln Lys Ala Leu Ser Thr 225 230 235 240	720
tgt ggg tct cac ctc tcc gtc gtt tct tta ttt tat ggg aca ggc att Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Gly Ile 245 250 255	768
ggg gtc cac ttc act tct gcg gtg act cac tct tcc cag aaa atc tcc Gly Val His Phe Thr Ser Ala Val Thr His Ser Ser Gln Lys Ile Ser 260 265 270	816
gtg gcc tcg gtg atg tac act gtg gtc acc ccc atg ttg aac ccc ttc	864

Val Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285  
 atc tac agc ctg agg aac aag gat gtg aag gga gcc ctg ggg agt ctc 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Gly Ser Leu  
 290 295 300  
 ctc agc agg gca gcc tct tgt ttg tga 939  
 Leu Ser Arg Ala Ala Ser Cys Leu  
 305 310  
 <210> 238  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 238  
 Met Glu Ala Gly Asn Gln Thr Gly Phe Leu Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 Leu Ser Glu Asp Pro Glu Leu Gln Pro Phe Ile Phe Gly Leu Phe Leu  
 20 25 30  
 Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 Asn Leu Ser Trp Val Asp Ile Cys Phe Ser Thr Cys Ile Val Pro Lys  
 65 70 75 80  
 Met Leu Val Asn Ile Gln Thr Glu Asn Lys Ala Ile Ser Tyr Met Asp  
 85 90 95  
 Cys Leu Thr Gln Val Tyr Phe Ser Met Phe Phe Pro Ile Leu Asp Thr  
 100 105 110  
 Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Phe Val Ala Val Cys His  
 115 120 125  
 Pro Leu His Tyr Met Ile Ile Met Asn Pro His Leu Cys Gly Leu Leu  
 130 135 140  
 Val Phe Val Thr Trp Leu Ile Gly Val Met Thr Ser Leu Leu His Ile  
 145 150 155 160  
 Ser Leu Met Met His Leu Ile Phe Cys Lys Asp Phe Glu Ile Pro His  
 165 170 175



Phe Phe Cys Glu Leu Thr Tyr Ile Leu Gln Leu Ala Cys Ser Asp Thr  
 180 185 190  
 Phe Leu Asn Ser Thr Leu Ile Tyr Phe Met Thr Gly Val Leu Gly Val  
 195 200 205  
 Phe Pro Leu Leu Gly Ile Ile Phe Ser Tyr Ser Arg Ile Ala Ser Ser  
 210 215 220  
 Ile Arg Lys Met Ser Ser Ser Gly Gly Lys Gln Lys Ala Leu Ser Thr  
 225 230 235 240  
 Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Gly Ile  
 245 250 255  
 Gly Val His Phe Thr Ser Ala Val Thr His Ser Ser Gln Lys Ile Ser  
 260 265 270  
 Val Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Gly Ser Leu  
 290 295 300  
 Leu Ser Arg Ala Ala Ser Cys Leu  
 305 310

<210> 239  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(936)  
 <223>

<400> 239  
 atg aaa gca gga aac ttc tca gac act cca gaa ttc ttt ctc ttg gga 48  
 Met Lys Ala Gly Asn Phe Ser Asp Thr Pro Glu Phe Phe Leu Leu Gly  
 1 5 10 15  
 ttg tca ggg gat ccg gag ctg cag ccc atc ctc ttc atg ctg ttc ctg 96  
 Leu Ser Gly Asp Pro Glu Leu Gln Pro Ile Leu Phe Met Leu Phe Leu  
 20 25 30  
 tcc atg tac ctg gcc aca atg ctg ggg aac ctg ctc atc atc ctg gcc 144  
 Ser Met Tyr Leu Ala Thr Met Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

gtc aac tct gac tcc cac ctc cac acc ccc atg tac ttc ctc ctc tct	192
Val Asn Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Ser	
50 55 60	
atc ctg tcc ttg gtc gac atc tgt ttc acc tcc acc acg atg ccc aag	240
Ile Leu Ser Leu Val Asp Ile Cys Phe Thr Ser Thr Thr Met Pro Lys	
65 70 75 80	
atg ctg gtg aac atc cag gca cag gct caa tcc atc aat tac aca ggc	288
Met Leu Val Asn Ile Gln Ala Gln Ala Gln Ser Ile Asn Tyr Thr Gly	
85 90 95	
tgc ctc acc caa atc tgc ttt gtc ctg gtt ttt gtt gga ttg gaa aat	336
Cys Leu Thr Gln Ile Cys Phe Val Leu Val Phe Val Gly Leu Glu Asn	
100 105 110	
gga att ctg gtc atg atg gcc tat gat cga ttt gtg gcc atc tgt cac	384
Gly Ile Leu Val Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His	
115 120 125	
cca ctg agg tac aat gtc atc atg aac ccc aaa ctc tgt ggg ctg ctg	432
Pro Leu Arg Tyr Asn Val Ile Met Asn Pro Lys Leu Cys Gly Leu Leu	
130 135 140	
ctt ctg ctg tcc ttc atc gtt agt gtc ctg gat gct ctg ctg cac acg	480
Leu Leu Leu Ser Phe Ile Val Ser Val Leu Asp Ala Leu Leu His Thr	
145 150 155 160	
ttg atg gtg cta cag ctg acc ttc tgc ata gac ctg gaa att ccc cac	528
Leu Met Val Leu Gln Leu Thr Phe Cys Ile Asp Leu Glu Ile Pro His	
165 170 175	
ttt ttc tgt gaa cta gct cat att ctc aag ctc gcc tgt tct gat gtc	576
Phe Phe Cys Glu Leu Ala His Ile Leu Lys Leu Ala Cys Ser Asp Val	
180 185 190	
ctc atc aat aac atc ctg gtg tat ttg gtg acc agc ctg tta ggt gtt	624
Leu Ile Asn Asn Ile Leu Val Tyr Leu Val Thr Ser Leu Leu Gly Val	
195 200 205	
gtt cct ctc tct ggg atc att ttc tct tac aca cga att gtc tcc tct	672
Val Pro Leu Ser Gly Ile Ile Phe Ser Tyr Thr Arg Ile Val Ser Ser	
210 215 220	
gtc atg aaa att cca tca gct ggt gga aag tat aaa gct ttt tcc atc	720
Val Met Lys Ile Pro Ser Ala Gly Gly Lys Tyr Lys Ala Phe Ser Ile	
225 230 235 240	
tgc ggg tca cat tta atc gtt gtt tcc ttg ttt tat gga aca ggg ttt	768
Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Gly Phe	
245 250 255	
ggg gtg tac ctt agt tct ggg gct acc cac tcc tcc agg aag ggt gca	816
Gly Val Tyr Leu Ser Ser Gly Ala Thr His Ser Ser Arg Lys Gly Ala	
260 265 270	
ata gca tca gtg atg tat acc gtg gtc acc ccc atg ctg aac cca ctc	864
Ile Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Leu	
275 280 285	

att tac agc ctg aga aac aag gac atg ttg aag gct ttg agg aaa cta 912  
 ile Tyr Ser Leu Arg Asn Lys Asp Met Leu Lys Ala Leu Arg Lys Leu  
 290 295 300

ata tct agg ata cca tct ttc cat tga 939  
 ile Ser Arg Ile Pro Ser Phe His  
 305 310

<210> 240  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 240

Met Lys Ala Gly Asn Phe Ser Asp Thr Pro Glu Phe Phe Leu Leu Gly  
 1 5 10 15

Leu Ser Gly Asp Pro Glu Leu Gln Pro Ile Leu Phe Met Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Ala Thr Met Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Val Asn Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

Ile Leu Ser Leu Val Asp Ile Cys Phe Thr Ser Thr Thr Met Pro Lys  
 65 70 75 80

Met Leu Val Asn Ile Gln Ala Gln Ala Gln Ser Ile Asn Tyr Thr Gly  
 85 90 95

Cys Leu Thr Gln Ile Cys Phe Val Leu Val Phe Val Gly Leu Glu Asn  
 100 105 110

Gly Ile Leu Val Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Asn Val Ile Met Asn Pro Lys Leu Cys Gly Leu Leu  
 130 135 140

Leu Leu Leu Ser Phe Ile Val Ser Val Leu Asp Ala Leu Leu His Thr  
 145 150 155 160

Leu Met Val Leu Gln Leu Thr Phe Cys Ile Asp Leu Glu Ile Pro His  
 165 170 175

Phe Phe Cys Glu Leu Ala His Ile Leu Lys Leu Ala Cys Ser Asp Val

180 185 190  
 Leu Ile Asn Asn Ile Leu Val Tyr Leu Val Thr Ser Leu Leu Gly Val  
 195 200 205  
 Val Pro Leu Ser Gly Ile Ile Phe Ser Tyr Thr Arg Ile Val Ser Ser  
 210 215 220  
 Val Met Lys Ile Pro Ser Ala Gly Gly Lys Tyr Lys Ala Phe Ser Ile  
 225 230 235 240  
 Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Gly Phe  
 245 250 255  
 Gly Val Tyr Leu Ser Ser Gly Ala Thr His Ser Ser Arg Lys Gly Ala  
 260 265 270  
 Ile Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Leu Lys Ala Leu Arg Lys Leu  
 290 295 300  
 Ile Ser Arg Ile Pro Ser Phe His  
 305 310

<210> 241  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(936)  
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<400> 241  
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 Met Glu Ala Glu Asn Leu Thr Glu Leu Ser Lys Phe Leu Leu Leu Gly  
 1 5 10 15  
 ctc tca gat gat cct gaa ctg cag ccc gtc ctc ttt ggg ctg ttc ctg 96  
 Leu Ser Asp Asp Pro Glu Leu Gln Pro Val Leu Phe Gly Leu Phe Leu  
 20 25 30  
 tcc atg tac ctg gtc acg gtg ctg ggg aac ctg ctc atc att ctg gcc 144  
 Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 gtc agc tct gac tcc cac ctc cac acc ccc atg tac ttc ttc ctc tcc 192  
 Val Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser

50	55	60	
aac ctg tcc ttt gtt gac atc tgt ttc atc tcc acc aca gtc ccc aag Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro Lys 65 70 75 80			240
atg cta gtg agc atc cag gca cgg agc aaa gac atc tcc tac atg ggg Met Leu Val Ser Ile Gln Ala Arg Ser Lys Asp Ile Ser Tyr Met Gly 85 90 95			288
tgc ctc act cag gtg tat ttt tta atg atg ttt gct gga atg gat act Cys Leu Thr Gln Val Tyr Phe Leu Met Met Phe Ala Gly Met Asp Thr 100 105 110			336
ttc cta ctg gcc gtg atg gcc tat gac cgg ttt gtg gcc atc tgc cac Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His 115 120 125			384
cca ctg cac tac acg gtc atc atg aac ccc tgc ctc tgt ggc ctc ctg Pro Leu His Tyr Thr Val Ile Met Asn Pro Cys Leu Cys Gly Leu Leu 130 135 140			432
gtt ctg gca tct tgg ttc atc att ttc tgg ttc tcc ctg gtt cat att Val Leu Ala Ser Trp Phe Ile Ile Phe Trp Phe Ser Leu Val His Ile 145 150 155 160			480
cta ctg atg aag agg ttg acc ttc tcc aca ggc act gag att ccg cat Leu Leu Met Lys Arg Leu Thr Phe Ser Thr Gly Thr Glu Ile Pro His 165 170 175			528
ttc ttc tgt gaa ccg gct cag gtc ctc aag gtg gcc tgc tct aac acc Phe Phe Cys Glu Pro Ala Gln Val Leu Lys Val Ala Cys Ser Asn Thr 180 185 190			576
ctc ctc aat aac att gtc ttg tat gtg gcc acg gca ctg ctg ggt gtg Leu Leu Asn Asn Ile Val Leu Tyr Val Ala Thr Ala Leu Leu Gly Val 195 200 205			624
ttt cct gta gct ggg atc ctc ttc tcc tac tct cag att gtc tcc tcc Phe Pro Val Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Ser Ser 210 215 220			672
tta atg gga atg tcc tcc acc aag ggc aag tac aaa gcc ttt tcc acc Leu Met Gly Met Ser Ser Thr Lys Gly Lys Tyr Lys Ala Phe Ser Thr 225 230 235 240			720
tgt gga tct cac ctc tgt gtg gtc tcc ttg ttc tat gga aca gga ctt Cys Gly Ser His Leu Cys Val Val Ser Leu Phe Tyr Gly Thr Gly Leu 245 250 255			768
ggg gtc tat ctg agt tct gct gtg acc cat tct tcc cag agc agc tcc Gly Val Tyr Leu Ser Ser Ala Val Thr His Ser Ser Gln Ser Ser Ser 260 265 270			816
acc gcc tca gtg atg tac gcc atg gtc acc ccc atg ctg aac ccc ttc Thr Ala Ser Val Met Tyr Ala Met Val Thr Pro Met Leu Asn Pro Phe 275 280 285			864
atc tac agc ctg agg aac aag gat gtg aag ggg gcc ctg gaa aga ctc Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Glu Arg Leu 290 295 300			912

939

ctc agc agg gcc gac tct tgt cca tga  
 Leu Ser Arg Ala Asp Ser Cys Pro  
 305 310

<210> 242  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 242

Met Glu Ala Glu Asn Leu Thr Glu Leu Ser Lys Phe Leu Leu Leu Gly  
 1 5 10 15

Leu Ser Asp Asp Pro Glu Leu Gln Pro Val Leu Phe Gly Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Val Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro Lys  
 65 70 75 80

Met Leu Val Ser Ile Gln Ala Arg Ser Lys Asp Ile Ser Tyr Met Gly  
 85 90 95

Cys Leu Thr Gln Val Tyr Phe Leu Met Met Phe Ala Gly Met Asp Thr  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Asn Pro Cys Leu Cys Gly Leu Leu  
 130 135 140

Val Leu Ala Ser Trp Phe Ile Ile Phe Trp Phe Ser Leu Val His Ile  
 145 150 155 160

Leu Leu Met Lys Arg Leu Thr Phe Ser Thr Gly Thr Glu Ile Pro His  
 165 170 175

Phe Phe Cys Glu Pro Ala Gln Val Leu Lys Val Ala Cys Ser Asn Thr  
 180 185 190

Leu Leu Asn Asn Ile Val Leu Tyr Val Ala Thr Ala Leu Leu Gly Val  
 195 200 205

Phe Pro Val Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Ser Ser  
 210 215 220

Leu Met Gly Met Ser Ser Thr Lys Gly Lys Tyr Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Cys Val Val Ser Leu Phe Tyr Gly Thr Gly Leu  
 245 250 255

Gly Val Tyr Leu Ser Ser Ala Val Thr His Ser Ser Gln Ser Ser Ser  
 260 265 270

Thr Ala Ser Val Met Tyr Ala Met Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Glu Arg Leu  
 290 295 300

Leu Ser Arg Ala Asp Ser Cys Pro  
 305 310

<210> 243  
 <211> 1038  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(1035)  
 <223>

<400> 243  
 atg ccg atg cag ctg ctg ctt aca gat ttt att atc ttt tcc atc aga 48  
 Met Pro Met Gln Leu Leu Leu Thr Asp Phe Ile Ile Phe Ser Ile Arg  
 1 5 10 15  
 ttc atc atc aac agc atg gaa gcg aga aac caa aca gct att tca aaa 96  
 Phe Ile Ile Asn Ser Met Glu Ala Arg Asn Gln Thr Ala Ile Ser Lys  
 20 25 30  
 ttc ctt ctc ctg gga ctg ata gag gat ccg gaa ctg cag ccc gtc ctt 144  
 Phe Leu Leu Leu Gly Leu Ile Glu Asp Pro Glu Leu Gln Pro Val Leu  
 35 40 45  
 ttc agc ctg ttc ctg tcc atg tac ttg gtc acc atc ctg ggg aac ctg 192  
 Phe Ser Leu Phe Leu Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu  
 50 55 60  
 ctc atc ctc ttg gct gtc atc tct gac tct cac ctc cac acc ccc atg 240

Leu Ile Leu Leu Ala Val Ile Ser Asp Ser His Leu His Thr Pro Met	
65 70 75 80	
tac ttc ttc ctc tcc aat ctc tcc ttt ttg gac att tgt tta agc aca	288
Tyr Phe Phe Leu Ser Asn Leu Ser Phe Leu Asp Ile Cys Leu Ser Thr	
85 90 95	
acc acg atc cca aag atg ctg gtg aac atc caa gct cag aat cgg agc	336
Thr Thr Ile Pro Lys Met Leu Val Asn Ile Gln Ala Gln Asn Arg Ser	
100 105 110	
atc acg tac tca ggc tgc ctc acc cag atc tgc ttt gtc ttg ttt ttt	384
Ile Thr Tyr Ser Gly Cys Leu Thr Gln Ile Cys Phe Val Leu Phe Phe	
115 120 125	
gct ggc ttg gaa aat tgt ctc ctt gca gca atg gcc tat gac cgc tat	432
Ala Gly Leu Glu Asn Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr	
130 135 140	
gtg gcc att tgt cac ccc ctt aga tac aca gtc atc atg aac ccc cgc	480
Val Ala Ile Cys His Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg	
145 150 155 160	
ctc tgt ggc ctg ctg att ctt ctc tct ctg ttg act agt gtt gtg aat	528
Leu Cys Gly Leu Leu Ile Leu Leu Ser Leu Leu Thr Ser Val Val Asn	
165 170 175	
gcc ctt ctt ctc agc ctg atg gtg ttg agg ctg tcc ttc tgc aca gac	576
Ala Leu Leu Leu Ser Leu Met Val Leu Arg Leu Ser Phe Cys Thr Asp	
180 185 190	
ctg gaa atc ccg ctc ttc ttc tgt gaa ctg gct cag gtc atc caa ctc	624
Leu Glu Ile Pro Leu Phe Phe Cys Glu Leu Ala Gln Val Ile Gln Leu	
195 200 205	
acc tgt tca gac acc ctc atc aat aac atc ctg ata tat ttt gca gct	672
Thr Cys Ser Asp Thr Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ala	
210 215 220	
tgc ata ttt ggt ggt gtt cct ctg tct gga atc att ttg tct tac act	720
Cys Ile Phe Gly Gly Val Pro Leu Ser Gly Ile Ile Leu Ser Tyr Thr	
225 230 235 240	
cag atc acc tcc tgt gtt ttg aga atg cca tca gca agt gga aag cac	768
Gln Ile Thr Ser Cys Val Leu Arg Met Pro Ser Ala Ser Gly Lys His	
245 250 255	
aaa gca gtt tcc acc tgt ggg tct cac ctc tcc att gtt ctc ttg ttc	816
Lys Ala Val Ser Thr Cys Gly Ser His Leu Ser Ile Val Leu Leu Phe	
260 265 270	
tat ggg gca ggt ttg ggg gtg tac att agt tct gtg gtt act gac tca	864
Tyr Gly Ala Gly Leu Gly Val Tyr Ile Ser Ser Val Val Thr Asp Ser	
275 280 285	
cct agg aag act gca gtg gct tca gtg atg tat tct gtg ttc cct caa	912
Pro Arg Lys Thr Ala Val Ala Ser Val Met Tyr Ser Val Phe Pro Gln	
290 295 300	
atg gtg aac ccc ttt atc tat agt ctg agg aat aag gac atg aaa gga	960
Met Val Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly	



305                      310                      315                      320  
 acc ttg agg aag ttc ata ggg agg ata cct tct ctt ctg tgg tgt gcc      1008  
 Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala  
                                  325                      330                      335

att tgc ttt gga ttc agg ttt cta gag taa      1038  
 Ile Cys Phe Gly Phe Arg Phe Leu Glu  
                                  340                      345

<210> 244  
 <211> 345  
 <212> PRT  
 <213> Homo Sapiens

<400> 244

Met Pro Met Gln Leu Leu Leu Thr Asp Phe Ile Ile Phe Ser Ile Arg  
 1                      5                      10                      15

Phe Ile Ile Asn Ser Met Glu Ala Arg Asn Gln Thr Ala Ile Ser Lys  
                                  20                      25                      30

Phe Leu Leu Leu Gly Leu Ile Glu Asp Pro Glu Leu Gln Pro Val Leu  
                                  35                      40                      45

Phe Ser Leu Phe Leu Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu  
                                  50                      55                      60

Leu Ile Leu Leu Ala Val Ile Ser Asp Ser His Leu His Thr Pro Met  
 65                      70                      75                      80

Tyr Phe Phe Leu Ser Asn Leu Ser Phe Leu Asp Ile Cys Leu Ser Thr  
                                  85                      90                      95

Thr Thr Ile Pro Lys Met Leu Val Asn Ile Gln Ala Gln Asn Arg Ser  
                                  100                      105                      110

Ile Thr Tyr Ser Gly Cys Leu Thr Gln Ile Cys Phe Val Leu Phe Phe  
                                  115                      120                      125

Ala Gly Leu Glu Asn Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr  
                                  130                      135                      140

Val Ala Ile Cys His Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg  
 145                      150                      155                      160

Leu Cys Gly Leu Leu Ile Leu Leu Ser Leu Leu Thr Ser Val Val Asn  
                                  165                      170                      175

Ala Leu Leu Leu Ser Leu Met Val Leu Arg Leu Ser Phe Cys Thr Asp  
 180 185 190

Leu Glu Ile Pro Leu Phe Phe Cys Glu Leu Ala Gln Val Ile Gln Leu  
 195 200 205

Thr Cys Ser Asp Thr Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ala  
 210 215 220

Cys Ile Phe Gly Gly Val Pro Leu Ser Gly Ile Ile Leu Ser Tyr Thr  
 225 230 235 240

Gln Ile Thr Ser Cys Val Leu Arg Met Pro Ser Ala Ser Gly Lys His  
 245 250 255

Lys Ala Val Ser Thr Cys Gly Ser His Leu Ser Ile Val Leu Leu Phe  
 260 265 270

Tyr Gly Ala Gly Leu Gly Val Tyr Ile Ser Ser Val Val Thr Asp Ser  
 275 280 285

Pro Arg Lys Thr Ala Val Ala Ser Val Met Tyr Ser Val Phe Pro Gln  
 290 295 300

Met Val Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly  
 305 310 315 320

Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala  
 325 330 335

Ile Cys Phe Gly Phe Arg Phe Leu Glu  
 340 345

<210> 245  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 245  
 atg gga ccc aga aac caa aca gct gtt tca gaa ttt ctt ctc atg aaa  
 Met Gly Pro Arg Asn Gln Thr Ala Val Ser Glu Phe Leu Leu Met Lys  
 1 5 10 15

gtg aca gag gac cca gaa ctg aag tta atc cct ttc agc ctg ttc ctg Val Thr Glu Asp Pro Glu Leu Lys Leu Ile Pro Phe Ser Leu Phe Leu 20 25 30	96
tcc atg tac ctg gtc acc atc ctg ggg aac ctg ctc att ctc ctg gct Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu Leu Ile Leu Leu Ala 35 40 45	144
gtc atc tct gac tcc cac ctc cac acc ccc atg tac ttc ctt ctc ttt Val Ile Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Phe 50 55 60	192
aat ctc tcc ttt act gac atc tgt tta acc aca acc aca gtc cca aag Asn Leu Ser Phe Thr Asp Ile Cys Leu Thr Thr Thr Val Pro Lys 65 70 75 80	240
atc cta gtg aac atc caa gct cag aat cag agt atc act tac aca ggc Ile Leu Val Asn Ile Gln Ala Gln Asn Gln Ser Ile Thr Tyr Thr Gly 85 90 95	288
tgc ctc acc cag atc tgt ctt gtc ttg gtt ttt gct ggc ttg gaa agt Cys Leu Thr Gln Ile Cys Leu Val Leu Val Phe Ala Gly Leu Glu Ser 100 105 110	336
tgc ttt ctt gca gtc atg gcc tac gac cgc tat gtg gcc att tgc cac Cys Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His 115 120 125	384
cca ctg agg tac aca gtc ctc atg aat gtc cat ttc tgg ggc ttg ctg Pro Leu Arg Tyr Thr Val Leu Met Asn Val His Phe Trp Gly Leu Leu 130 135 140	432
att ctt ctc tcc atg ttc atg agc act atg gat gcc ctg gtt cag agt Ile Leu Leu Ser Met Phe Met Ser Thr Met Asp Ala Leu Val Gln Ser 145 150 155 160	480
ctg atg gta ttg cag ctg tcc ttc tgc aaa aac gtt gaa atc cct ttg Leu Met Val Leu Gln Leu Ser Phe Cys Lys Asn Val Glu Ile Pro Leu 165 170 175	528
ttc ttc tgt gaa gtc gtt cag gtc atc aag ctc gcc tgt tct gac acc Phe Phe Cys Glu Val Val Gln Val Ile Lys Leu Ala Cys Ser Asp Thr 180 185 190	576
ctc atc aac aac atc ctc ata tat ttt gca agt agt gta ttt ggt gca Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ser Ser Val Phe Gly Ala 195 200 205	624
att cct ctc tct gga ata att ttc tct tat tct caa ata gtc acc tct Ile Pro Leu Ser Gly Ile Ile Phe Ser Tyr Ser Gln Ile Val Thr Ser 210 215 220	672
gtt ctg aga atg cca tca gca aga gga aag tat aaa gcg ttt tcc acc Val Leu Arg Met Pro Ser Ala Arg Gly Lys Tyr Lys Ala Phe Ser Thr 225 230 235 240	720
tgt ggc tgt cac ctc tct gtt ttt tcc ttg ttc tat ggg aca gct ttt Cys Gly Cys His Leu Ser Val Phe Ser Leu Phe Tyr Gly Thr Ala Phe 245 250 255	768
ggg gtg tac att agt tct gct gtt gct gag tct tcc cga att act gct	816

Gly Val Tyr Ile Ser Ser Ala Val Ala Glu Ser Ser Arg Ile Thr Ala  
 260 265 270

gtg gct tca gtg atg tac act gtg gtc cct caa atg atg aac ccc ttc 864  
 Val Ala Ser Val Met Tyr Thr Val Val Pro Gln Met Met Asn Pro Phe  
 275 280 285

atc tac agc ctg aga aat aag gag atg aag aaa gct ttg agg aaa ctt 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Met Lys Lys Ala Leu Arg Lys Leu  
 290 295 300

att ggt agg ctg ttt cct ttt tag 936  
 Ile Gly Arg Leu Phe Pro Phe  
 305 310

<210> 246  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 246

Met Gly Pro Arg Asn Gln Thr Ala Val Ser Glu Phe Leu Leu Met Lys  
 1 5 10 15

Val Thr Glu Asp Pro Glu Leu Lys Leu Ile Pro Phe Ser Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu Leu Ile Leu Leu Ala  
 35 40 45

Val Ile Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Phe  
 50 55 60

Asn Leu Ser Phe Thr Asp Ile Cys Leu Thr Thr Thr Thr Val Pro Lys  
 65 70 75 80

Ile Leu Val Asn Ile Gln Ala Gln Asn Gln Ser Ile Thr Tyr Thr Gly  
 85 90 95

Cys Leu Thr Gln Ile Cys Leu Val Leu Val Phe Ala Gly Leu Glu Ser  
 100 105 110

Cys Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Thr Val Leu Met Asn Val His Phe Trp Gly Leu Leu  
 130 135 140

Ile Leu Leu Ser Met Phe Met Ser Thr Met Asp Ala Leu Val Gln Ser  
 145 150 155 160

Leu Met Val Leu Gln Leu Ser Phe Cys Lys Asn Val Glu Ile Pro Leu  
 165 170 175

Phe Phe Cys Glu Val Val Gln Val Ile Lys Leu Ala Cys Ser Asp Thr  
 180 185 190

Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ser Ser Val Phe Gly Ala  
 195 200 205

Ile Pro Leu Ser Gly Ile Ile Phe Ser Tyr Ser Gln Ile Val Thr Ser  
 210 215 220

Val Leu Arg Met Pro Ser Ala Arg Gly Lys Tyr Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Cys His Leu Ser Val Phe Ser Leu Phe Tyr Gly Thr Ala Phe  
 245 250 255

Gly Val Tyr Ile Ser Ser Ala Val Ala Glu Ser Ser Arg Ile Thr Ala  
 260 265 270

Val Ala Ser Val Met Tyr Thr Val Val Pro Gln Met Met Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Met Lys Lys Ala Leu Arg Lys Leu  
 290 295 300

Ile Gly Arg Leu Phe Pro Phe  
 305 310

<210> 247  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 247  
 atg ggc aag gaa aac tgc acc act gtg gct gag ttc att ctc ctt gga 48  
 Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 cta tca gat gtc cct gag ttg aga gtc tgc ctc ttc ctg ctg ttc ctt 96  
 Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Phe Leu  
 20 25 30

ctc atc tat gga gtc acg ttg tta gcc aat ctg ggc atg act gca ctg Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Thr Ala Leu 35 40 45	144
att cag gtc agc tct cgg ctc cac acc ccc gtg tac ttt ttc ctc agc Ile Gln Val Ser Ser Arg Leu His Thr Pro Val Tyr Phe Phe Leu Ser 50 55 60	192
cac ttg tcc ttt gta gat ttc tgc tac tcc tca ata att gtg cca aag His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys 65 70 75 80	240
atg ttg gct aat atc ttt aac aag gac aaa gcc atc tcc ttc cta ggg Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly 85 90 95	288
tgc atg gtg caa ttc tac ttg ttt tgc aca tgt gga gtc act gag gtc Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Gly Val Thr Glu Val 100 105 110	336
ttc ctg ctg gcc gtg atg gcc tat gac cgc ttt gtg gcc atc tgt aac Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn 115 120 125	384
ccc ctg ctg tac atg gtg acc atg tct caa aag ctg cgt gtg gag ctg Pro Leu Leu Tyr Met Val Thr Met Ser Gln Lys Leu Arg Val Glu Leu 130 135 140	432
acc tct tgc tgc tac ttc tgt ggg acg gtg tgt tct ctg att cac tcg Thr Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Ser 145 150 155 160	480
tcc tta gct ctt agg atc ctc ttc tat aga tct aat gtg att aac cac Ser Leu Ala Leu Arg Ile Leu Phe Tyr Arg Ser Asn Val Ile Asn His 165 170 175	528
ttc ttc tgt gat cta ccc cct ctc cta agt ctt gct tgc tct gat gtc Phe Phe Cys Asp Leu Pro Pro Leu Leu Ser Leu Ala Cys Ser Asp Val 180 185 190	576
act gtg aat gag aca ctg ctg ttc ctg gtg gcc act ttg aat gag agt Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser 195 200 205	624
gtt acc atc atg atc atc ctc acc tcc tac ctg cta att ctc acc act Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Ile Leu Thr Thr 210 215 220	672
atc ctg aag ata cac tct gca gag agc agg cac aaa gct ttc tcc acc Ile Leu Lys Ile His Ser Ala Glu Ser Arg His Lys Ala Phe Ser Thr 225 230 235 240	720
tgt gcc tcc cac ctc aca gcc atc act gtc tcc cat gga aca atc ctt Cys Ala Ser His Leu Thr Ala Ile Thr Val Ser His Gly Thr Ile Leu 245 250 255	768
tac att tat tgc agg ccg agt tca ggc aac agt gga gat gtt gac aaa Tyr Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Val Asp Lys 260 265 270	816

gtg gcc acc gtg ttc tac aca gtt gtg att ccc atg ctg aac ccc ctg 864  
 Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
                   275                                  280                                  285

atc tac agc ctg aga aat aag gat gtg aac aaa gct ctc aga aaa gtg 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Asn Lys Ala Leu Arg Lys Val  
                   290                                  295                                  300

atg ggc tcc aaa att cac tcc tag 936  
 Met Gly Ser Lys Ile His Ser  
                   305                                  310

<210> 248  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 248

Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
   1                                  5                                  10                                  15

Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
                   20                                  25                                  30

Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Thr Ala Leu  
                   35                                  40                                  45

Ile Gln Val Ser Ser Arg Leu His Thr Pro Val Tyr Phe Phe Leu Ser  
                   50                                  55                                  60

His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
   65                                  70                                  75                                  80

Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly  
                   85                                  90                                  95

Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Gly Val Thr Glu Val  
                   100                                  105                                  110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
                   115                                  120                                  125

Pro Leu Leu Tyr Met Val Thr Met Ser Gln Lys Leu Arg Val Glu Leu  
                   130                                  135                                  140

Thr Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Ser  
   145                                  150                                  155                                  160

Ser Leu Ala Leu Arg Ile Leu Phe Tyr Arg Ser Asn Val Ile Asn His

165	170	175
Phe Phe Cys Asp Leu Pro Pro Leu Leu Ser Leu Ala Cys Ser Asp Val 180 185 190		
Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser 195 200 205		
Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr 210 215 220		
Ile Leu Lys Ile His Ser Ala Glu Ser Arg His Lys Ala Phe Ser Thr 225 230 235 240		
Cys Ala Ser His Leu Thr Ala Ile Thr Val Ser His Gly Thr Ile Leu 245 250 255		
Tyr Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Val Asp Lys 260 265 270		
Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu 275 280 285		
Ile Tyr Ser Leu Arg Asn Lys Asp Val Asn Lys Ala Leu Arg Lys Val 290 295 300		
Met Gly Ser Lys Ile His Ser 305 310		
<210> 249		
<211> 942		
<212> DNA		
<213> Homo Sapiens		
<220>		
<221> CDS		
<222> (1)..(939)		
<223>		
<400> 249		
atg ctg ctg act gat aga aat aca agt ggg acc acg ttc acc ctc ttg Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu 1 5 10 15		48
ggc ttc tca gat tac cca gaa ctg caa gtc cca ctc ttc ctg gtt ttt Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe 20 25 30		96
ctg gcc atc tac aat gtc act gtg cta ggg aat att ggg ttg att gtg Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val		144



35	40	45	
atc atc aaa atc aac ccc aaa ctg cat acc ccc atg tac ttt ttc ctc Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu 50 55 60			192
agc caa ctc tcc ttt gtg gat ttc tgc tat tcc tcc atc att gct ccc Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro 65 70 75 80			240
aag atg ttg gtg aac ctt gtt gtc aaa gac aga acc att tca ttt tta Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu 85 90 95			288
gga tgc gta gta caa ttc ttt ttc ttc tgt acc ttt gtg gtc act gaa Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu 100 105 110			336
tcc ttt tta tta gct gtg atg gcc tat gac cgc ttc gtg gcc att tgc Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys 115 120 125			384
aac cct ctg ctc tac aca gtt aac atg tcc cag aaa ctc tgc gtg ctg Asn Pro Leu Leu Tyr Thr Val Asn Met Ser Gln Lys Leu Cys Val Leu 130 135 140			432
ctg gtt gtg gga tcc tat gcc tgg gga gtc tca tgt tcc ttg gaa ctg Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu 145 150 155 160			480
acg tgc tct gct tta aag tta tgt ttt cat ggt ttc aac aca atc aat Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn 165 170 175			528
cac ttc ttc tgt gag ttc tcc tca cta ctc tcc ctt tct tgc tct gat His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp 180 185 190			576
act tac atc aac cag tgg ctg cta ttc ttt ctt gcc acc ttt aat gaa Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu 195 200 205			624
atc agc aca cta ctc atc gtt ctc aca tct tat gcg ttc att gtt gta Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val 210 215 220			672
acc atc ctc aag atg cgt tca gtc agt ggg cgc cgc aaa gcc ttc tcc Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser 225 230 235 240			720
acc tgt gcc tcc cac ctg act gcc atc acc atc ttc cat gcc acc atc Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile 245 250 255			768
ctc ttc ctt tac tgt gtg ccc aac tcc aaa aac tcc agg cac aca gtc Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val 260 265 270			816
aaa gtg gcc tct gtg ttt tac acc gtg gtg atc ccc atg ttg aat ccc Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro 275 280 285			864

ctg atc tac agt ctg aga aat aaa gat gtc aag gat aca gtc acc gag 912  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu  
           290                          295                          300

ata ctg gac acc aaa gtc ttc tct tac tga 942  
 Ile Leu Asp Thr Lys Val Phe Ser Tyr  
 305                          310

<210> 250  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 250

Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu  
 1                          5                          10                          15

Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe  
                           20                          25                          30

Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val  
           35                          40                          45

Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu  
           50                          55                          60

Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro  
 65                          70                          75                          80

Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu  
                           85                          90                          95

Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu  
                           100                          105                          110

Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys  
           115                          120                          125

Asn Pro Leu Leu Tyr Thr Val Asn Met Ser Gln Lys Leu Cys Val Leu  
           130                          135                          140

Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu  
 145                          150                          155                          160

Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn  
                           165                          170                          175

His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp  
 180 185 190

Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu  
 195 200 205

Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val  
 210 215 220

Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile  
 245 250 255

Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val  
 260 265 270

Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu  
 290 295 300

Ile Leu Asp Thr Lys Val Phe Ser Tyr  
 305 310

<210> 251  
 <211> 987  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(984)  
 <223>

<400> 251  
 atg ttt ctg aca gag aga aat acg aca tct gag gcc aca ttc act ctc 48  
 Met Phe Leu Thr Glu Arg Asn Thr Thr Ser Glu Ala Thr Phe Thr Leu  
 1 5 10 15  
 ttg ggc ttc tca gat tac ctg gaa ctg caa att ccc ctc ttc ttt gta 96  
 Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val  
 20 25 30  
 ttt ctg gca gtc tac ggc ttc agt gtg gta ggg aat ctt ggg atg ata 144  
 Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile  
 35 40 45  
 gtg atc atc aaa att aac cca aaa ttg cat acc ccc atg tat ttt ttc 192

Val	Ile	Ile	Lys	Ile	Asn	Pro	Lys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe		
50						55					60						
ctc	aac	cac	ctc	tcc	ttt	gtg	gat	ttc	tgc	tat	tcc	tcc	atc	att	gct		240
Leu	Asn	His	Leu	Ser	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Ile	Ala		
65					70					75					80		
ccc	atg	atg	ctg	gtg	aac	ctg	gtt	gta	gaa	gat	aga	acc	att	tca	ttc		288
Pro	Met	Met	Leu	Val	Asn	Leu	Val	Val	Glu	Asp	Arg	Thr	Ile	Ser	Phe		
				85					90					95			
tca	gga	tgt	ttg	gtg	caa	ttc	ttt	ttc	ttt	tgc	acc	ttt	gta	gtg	act		336
Ser	Gly	Cys	Leu	Val	Gln	Phe	Phe	Phe	Phe	Cys	Thr	Phe	Val	Val	Thr		
			100					105					110				
gaa	tta	att	cta	ttt	gcg	gtg	atg	gcc	tat	gac	cac	ttt	gtg	gcc	att		384
Glu	Leu	Ile	Leu	Phe	Ala	Val	Met	Ala	Tyr	Asp	His	Phe	Val	Ala	Ile		
			115				120					125					
tgc	aat	cct	ctg	ctc	tac	aca	gtt	gcc	atc	tcc	cag	aaa	ctc	tgt	gcc		432
Cys	Asn	Pro	Leu	Leu	Tyr	Thr	Val	Ala	Ile	Ser	Gln	Lys	Leu	Cys	Ala		
			130			135					140						
atg	ctg	gtg	gtt	gta	ttg	tat	gca	tgg	gga	gtc	gca	tgt	tcc	ctg	aca		480
Met	Leu	Val	Val	Val	Leu	Tyr	Ala	Trp	Gly	Val	Ala	Cys	Ser	Leu	Thr		
145					150					155					160		
ctc	gcg	tgc	tct	gct	tta	aag	tta	tct	ttt	cat	ggt	ttc	aac	aca	atc		528
Leu	Ala	Cys	Ser	Ala	Leu	Lys	Leu	Ser	Phe	His	Gly	Phe	Asn	Thr	Ile		
				165					170					175			
aat	cat	ttc	ttc	tgt	gag	tta	tcc	tcc	ctg	ata	tca	ctc	tct	tac	cct		576
Asn	His	Phe	Phe	Cys	Glu	Leu	Ser	Ser	Leu	Ile	Ser	Leu	Ser	Tyr	Pro		
			180				185						190				
gac	tct	tat	ctc	agc	cag	ttg	ctt	ctt	ttc	act	gtt	gcc	act	ttt	aat		624
Asp	Ser	Tyr	Leu	Ser	Gln	Leu	Leu	Leu	Phe	Thr	Val	Ala	Thr	Phe	Asn		
			195			200						205					
gag	ata	agc	aca	cta	ctc	atc	att	ctg	aca	tct	tat	gca	ttc	atc	att		672
Glu	Ile	Ser	Thr	Leu	Leu	Ile	Ile	Leu	Thr	Ser	Tyr	Ala	Phe	Ile	Ile		
			210			215					220						
gtc	acc	acc	ttg	aag	atg	cct	tca	gcc	agt	ggg	cac	cgc	aaa	gtc	ttc		720
Val	Thr	Thr	Leu	Lys	Met	Pro	Ser	Ala	Ser	Gly	His	Arg	Lys	Val	Phe		
225				230						235				240			
tcc	acc	tgt	gcc	tcc	cac	ctg	act	gcc	atc	acc	atc	ttc	cat	ggc	acc		768
Ser	Thr	Cys	Ala	Ser	His	Leu	Thr	Ala	Ile	Thr	Ile	Phe	His	Gly	Thr		
				245					250					255			
atc	ctc	ttc	ctc	tac	tgt	gta	ccc	aac	tcc	aaa	aac	tcc	agg	cac	aca		816
Ile	Leu	Phe	Leu	Tyr	Cys	Val	Pro	Asn	Ser	Lys	Asn	Ser	Arg	His	Thr		
			260					265					270				
gtc	aaa	gtg	gcc	tct	gtg	ttt	tac	acc	gtg	gtg	atc	ccc	ttg	ttg	aat		864
Val	Lys	Val	Ala	Ser	Val	Phe	Tyr	Thr	Val	Val	Ile	Pro	Leu	Leu	Asn		
			275				280					285					
ccc	ctg	atc	tac	agt	ctg	aga	aat	aaa	gat	gtt	aag	gat	gca	atc	cga		912
Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Asp	Ala	Ile	Arg		

290                      295                      300  
 aaa ata atc aat aca aaa tat ttt cat att aaa cat agg cat tgg tat                      960  
 Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr  
 305                      310                      315                      320  
  
 cca ttt aat ttt gtt att gaa caa taa                      987  
 Pro Phe Asn Phe Val Ile Glu Gln  
                     325  
  
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 <212> PRT  
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 1                      5                      10                      15  
  
 Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val  
                     20                      25                      30  
  
 Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile  
                     35                      40                      45  
  
 Val Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe  
                     50                      55                      60  
  
 Leu Asn His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala  
 65                      70                      75                      80  
  
 Pro Met Met Leu Val Asn Leu Val Val Glu Asp Arg Thr Ile Ser Phe  
                     85                      90                      95  
  
 Ser Gly Cys Leu Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr  
                     100                      105                      110  
  
 Glu Leu Ile Leu Phe Ala Val Met Ala Tyr Asp His Phe Val Ala Ile  
                     115                      120                      125  
  
 Cys Asn Pro Leu Leu Tyr Thr Val Ala Ile Ser Gln Lys Leu Cys Ala  
                     130                      135                      140  
  
 Met Leu Val Val Val Leu Tyr Ala Trp Gly Val Ala Cys Ser Leu Thr  
 145                      150                      155                      160  
  
 Leu Ala Cys Ser Ala Leu Lys Leu Ser Phe His Gly Phe Asn Thr Ile  
                     165                      170                      175

Asn His Phe Phe Cys Glu Leu Ser Ser Leu Ile Ser Leu Ser Tyr Pro  
 180 185 190

Asp Ser Tyr Leu Ser Gln Leu Leu Leu Phe Thr Val Ala Thr Phe Asn  
 195 200 205

Glu Ile Ser Thr Leu Leu Ile Ile Leu Thr Ser Tyr Ala Phe Ile Ile  
 210 215 220

Val Thr Thr Leu Lys Met Pro Ser Ala Ser Gly His Arg Lys Val Phe  
 225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr  
 260 265 270

Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Leu Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ile Arg  
 290 295 300

Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr  
 305 310 315 320

Pro Phe Asn Phe Val Ile Glu Gln  
 325

<210> 253  
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 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <223>

<400> 253  
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 Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu  
 1 5 10 15

ttg ggt ttt tca gaa tac cca gaa atc cag gtt cca ctc ttt ctg gtt 96  
 Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
 20 25 30

ttc ttg ttc gtc tac aca gtc act gta gtg ggg aac ttg ggc atg ata Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile 35 40 45	144
ata atc atc aga ctc aat tca aaa ctc cat aca atc atg tgc ttt ttc Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Cys Phe Phe 50 55 60	192
ctt agt cac ttg tcc ttg aca gac ttc tgt ttt tcc act gta gtt aca Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr 65 70 75 80	240
cct aaa ctg ttg gag aac ttg gtt gtg gaa tac aga acc atc tct ttc Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe 85 90 95	288
tct ggt tgc atc atg caa ttt tgt ttt gct tgc att ttt gga gtg aca Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr 100 105 110	336
gaa act ttc atg tta gca gcg atg gct tat gac cgt ttt gtg gca gtt Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val 115 120 125	384
tgt aaa ccc ttg ctg tat acc act att atg tct cag aag ctc tgt gct Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala 130 135 140	432
ctt ctg gtg gct ggg tcc tat aca tgg ggg ata gtg tgc tcc ctg ata Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile 145 150 155 160	480
ctc aca tat ttt ctt ctt gac tta tgc ttt tgt gaa tct acc ttc ata Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile 165 170 175	528
aat aat ttt atc tgt gac cac tct gta att gtt tct gcc tcc tac tca Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser 180 185 190	576
gac ccc tat atc agc cag agg cta tgc ttt att att gcc ata ttc aat Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn 195 200 205	624
gag gtg agc agc cta att atc att ctg aca tca tat atg ctt att ttc Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe 210 215 220	672
act acc att atg aag atg cga tct gca agt ggg cgc cag aaa act ttc Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe 225 230 235 240	720
tcc acc tgt gcc tcc cac ctg aca gcc atc act atc ttc cat gga act Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr 245 250 255	768
atc ctt ttc ctt tac tgt gtt cct aat cct aaa act tct agc ctc ata Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile 260 265 270	816
gtt aca gtg gct tct gtg ttt tac aca gtg gcg att cca atg ctg aac	864

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285  
 cca ttg atc tac agc ctt agg aac aaa gat atc aat aac atg ttt gaa 912  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300  
 aaa tta gtt gtc acc aaa ttg att tac cac tga 945  
 Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 254  
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 <212> PRT  
 <213> Homo Sapiens

<400> 254

Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu  
 1 5 10 15

Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
 20 25 30

Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Cys Phe Phe  
 50 55 60

Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr  
 65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe  
 85 90 95

Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr  
 100 105 110

Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val  
 115 120 125

Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala  
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile  
 145 150 155 160

Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile  
 165 170 175



Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser  
 180 185 190

Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn  
 195 200 205

Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
 210 215 220

Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe  
 225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile  
 260 265 270

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300

Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 255  
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 <213> Homo Sapiens

<220>  
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<400> 255  
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 Met Met Met Val Leu Arg Asn Leu Ser Met Glu Pro Thr Phe Ala Leu  
 1 5 10 15  
 tta ggt ttc aca gat tac cca aag ctt cag att cct ctc ttc ctt gtg 96  
 Leu Gly Phe Thr Asp Tyr Pro Lys Leu Gln Ile Pro Leu Phe Leu Val  
 20 25 30  
 ttt ctg ctc atg tat gtt atc aca gtg gta gga aac ctt ggg atg atc 144  
 Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

ata ata atc aag att aac ccc aaa ttt cac act cct atg tac ttt ttc Ile Ile Ile Lys Ile Asn Pro Lys Phe His Thr Pro Met Tyr Phe Phe 50 55 60	192
ctt agt cac ctc tct ttt gtt gat ttt tgt tac tct tcc att gtc act Leu Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Val Thr 65 70 75 80	240
ccc aag ctg ctt gag aac ttg gta atg gca gat aaa agc atc ttc tac Pro Lys Leu Leu Glu Asn Leu Val Met Ala Asp Lys Ser Ile Phe Tyr 85 90 95	288
ttt agc tgc atg atg cag tac ttc ctg tcc tgc act gct gtg gtg aca Phe Ser Cys Met Met Gln Tyr Phe Leu Ser Cys Thr Ala Val Val Thr 100 105 110	336
gag tct ttc ttg ctg gca gtg atg gcc tat gac cgc ttt gtg gcc atc Glu Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile 115 120 125	384
tgc aat cct ctg ctt tat aca gtg gcc atg tca cag agg ctc tgt gcc Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Arg Leu Cys Ala 130 135 140	432
ctg ctg gtg gct ggg tca tat ctc tgg ggc atg ttt ggc ccc ttg gta Leu Leu Val Ala Gly Ser Tyr Leu Trp Gly Met Phe Gly Pro Leu Val 145 150 155 160	480
ctc ctt tgt tat gct ctc cgg tta aac ttc tct gga cct aat gta atc Leu Leu Cys Tyr Ala Leu Arg Leu Asn Phe Ser Gly Pro Asn Val Ile 165 170 175	528
aac cac ttc ttt tgt gag tat act gct ctc atc tct gtg tct ggc tct Asn His Phe Phe Cys Glu Tyr Thr Ala Leu Ile Ser Val Ser Gly Ser 180 185 190	576
gat ata ctc atc ccc cac ctg ctg ctt ttc agc ttc gcc acc ttc aat Asp Ile Leu Ile Pro His Leu Leu Leu Phe Ser Phe Ala Thr Phe Asn 195 200 205	624
gag atg tgt aca cta ctg atc atc ctc act tcc tat gtt ttc att ttt Glu Met Cys Thr Leu Leu Ile Ile Leu Thr Ser Tyr Val Phe Ile Phe 210 215 220	672
gtg act gta cta aaa atc cgt tct gtt agt ggg cgc cac aaa gcc ttc Val Thr Val Leu Lys Ile Arg Ser Val Ser Gly Arg His Lys Ala Phe 225 230 235 240	720
tcc acc tgg gcc tcc cac ctg act tct atc acc atc ttc cat ggg acc Ser Thr Trp Ala Ser His Leu Thr Ser Ile Thr Ile Phe His Gly Thr 245 250 255	768
atc ctt ttc ctt tac tgt gta ccc aac tcc aaa aac tct cgg caa aca Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg Gln Thr 260 265 270	816
gtc aaa gtg gcc tct gta ttt tac aca gtt gtc aac ccc atg ctg aac Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Asn Pro Met Leu Asn 275 280 285	864

cct ctg atc tac agc cta agg aat aaa gac gtg aag gat gct ttc tgg 912  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Trp  
 290 295 300

aag tta ata cat aca caa gtt cca ttt cac tga 945  
 Lys Leu Ile His Thr Gln Val Pro Phe His  
 305 310

<210> 256

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 256

Met Met Met Val Leu Arg Asn Leu Ser Met Glu Pro Thr Phe Ala Leu  
 1 5 10 15

Leu Gly Phe Thr Asp Tyr Pro Lys Leu Gln Ile Pro Leu Phe Leu Val  
 20 25 30

Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

Ile Ile Ile Lys Ile Asn Pro Lys Phe His Thr Pro Met Tyr Phe Phe  
 50 55 60

Leu Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Val Thr  
 65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Met Ala Asp Lys Ser Ile Phe Tyr  
 85 90 95

Phe Ser Cys Met Met Gln Tyr Phe Leu Ser Cys Thr Ala Val Val Thr  
 100 105 110

Glu Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Arg Leu Cys Ala  
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Leu Trp Gly Met Phe Gly Pro Leu Val  
 145 150 155 160

Leu Leu Cys Tyr Ala Leu Arg Leu Asn Phe Ser Gly Pro Asn Val Ile  
 165 170 175

Asn His Phe Phe Cys Glu Tyr Thr Ala Leu Ile Ser Val Ser Gly Ser

180                      185                      190  
 Asp Ile Leu Ile Pro His Leu Leu Leu Phe Ser Phe Ala Thr Phe Asn  
       195                      200                      205  
 Glu Met Cys Thr Leu Leu Ile Ile Leu Thr Ser Tyr Val Phe Ile Phe  
       210                      215                      220  
 Val Thr Val Leu Lys Ile Arg Ser Val Ser Gly Arg His Lys Ala Phe  
       225                      230                      235                      240  
 Ser Thr Trp Ala Ser His Leu Thr Ser Ile Thr Ile Phe His Gly Thr  
                     245                      250                      255  
 Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg Gln Thr  
                     260                      265                      270  
 Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Asn Pro Met Leu Asn  
                     275                      280                      285  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Trp  
                     290                      295                      300  
 Lys Leu Ile His Thr Gln Val Pro Phe His  
       305                      310

<210> 257  
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 <212> DNA  
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<220>  
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<400> 257  
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 Met Glu Ser Pro Asn Gln Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala  
       1                      5                      10                      15  
 ttc cct tat tcc tgg gtt aag tct gtt gtc tgc ttt gtt cca ctg ctc                      96  
 Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu  
                     20                      25                      30  
 ttc atc tat gct ttc att gtt gtt gga aac ctg gtc atc atc aca gtg                      144  
 Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val  
                     35                      40                      45  
 gtc cag ttg aat act cac ctc cac act ccc atg tat act ttt atc agt                      192  
 Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser

50	55	60	
gct ctt tct ttt ctg gag att tgg tat acc aca gcc aca atc cca aag Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys 65 70 75 80			240
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys 85 90 95			288
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys 100 105 110			336
ctc ttg aca gtt atg gcc ttt gac cac tac ctg gcc ata tgc agc cct Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro 115 120 125			384
ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr 130 135 140			432
tta agt tgc tgt gtt tgt ggc ttt atc aca ccc gtt cct gag att gcc Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Val Pro Glu Ile Ala 145 150 155 160			480
tgg atc tct aca ctg cca ttt tgt ggt tgc aat cac ctt gaa cat atc Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile 165 170 175			528
ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg 180 185 190			576
gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile 195 200 205			624
att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala 210 215 220			672
gta att cta cgt att cat tca gct gga ggc cgc cgc aca gca ttt tcc Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser 225 230 235 240			720
acg tgt gtc tct cac ttc att gtc ttt tgc ctc ttc ttt ggc agt gtg Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val 245 250 255			768
act ctc atg tac cta cgc ttc tct gcc acc tac tct ttg ttc tgg gat Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp 260 265 270			816
ata gcc att gct ctg gcc ttt gca gtt ttg tct ccc ttc ttc aac ccc Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro 275 280 285			864
att atc tat agc ctg agg aat aaa gaa ata aaa gaa gct ata aaa aag Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys 290 295 300			912

cac ata ggt caa gct aag ata ttt ttt tcc gta aga cca ggg acc tca 960  
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser  
 305 310 315 320

agt aag ata ttt tag 975  
 Ser Lys Ile Phe

<210> 258  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 258

Met Glu Ser Pro Asn Gln Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala  
 1 5 10 15

Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu  
 20 25 30

Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val  
 35 40 45

Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser  
 50 55 60

Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys  
 65 70 75 80

Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys  
 85 90 95

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys  
 100 105 110

Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro  
 115 120 125

Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr  
 130 135 140

Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Val Pro Glu Ile Ala  
 145 150 155 160

Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile  
 165 170 175

Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg  
 180 185 190  
 Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile  
 195 200 205  
 Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala  
 210 215 220  
 Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser  
 225 230 235 240  
 Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val  
 245 250 255  
 Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp  
 260 265 270  
 Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro  
 275 280 285  
 Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys  
 290 295 300  
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser  
 305 310 315 320  
 Ser Lys Ile Phe  
  
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 1 5 10 15  
 ttc cct cag ctt cag gat ggt agt ctc ctg tac ttc ttt cct tta ctt 96  
 Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu  
 20 25 30  
 ttc atc tat act ttt att atc att gat aac tta tta atc ttc tct gct 144

Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala	
35 40 45	
gta agg ctg gac acc cat ctc cac aac ccc atg tat aat ttt atc agt	192
Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe Ile Ser	
50 55 60	
ata ttt tcc ttt ctg gag atc tgg tac acc aca gcc acc att ccc aag	240
Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys	
65 70 75 80	
atg ctc tcc aac ctc atc agt gaa aag aag gcc atc tca atg act ggc	288
Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly	
85 90 95	
tgc atc ttg cag atg tat ttc ttc cac tca ctt gaa aac tca gag ggg	336
Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly	
100 105 110	
atc ttg ctg acc acc atg gcc att gac aga tac gtt gcc atc tgc aac	384
Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cct ctt cgc tat caa atg atc atg acc ccc cgg ctc tgt gct cac ctc	432
Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala His Leu	
130 135 140	
tct gca ggt tcc tgc ctc ttc ggt ttc ctt atc ctg ctt ccc gag att	480
Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile	
145 150 155 160	
gtg atg att tcc aca ctg cct ttc tgt ggg ccc aac caa atc cat cag	528
Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln	
165 170 175	
atc ttc tgt gac ttg gtc cct gtg cta agc ctg gcc tgt aca gac acg	576
Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr	
180 185 190	
tcc atg att ctg att gag gat gtg att cat gct gtg acc atc atc att	624
Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile	
195 200 205	
acc ttc cta atc att gcc ctg tcc tat gta aga att gtc act gtg ata	672
Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile	
210 215 220	
ttg agg att ccc tct tct gaa ggg agg caa aag gct ttt tct acc tgt	720
Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys	
225 230 235 240	
gca ggc cac ctc atg gtc ttc ctg ata ttc ttt ggc agt gta tca ctc	768
Ala Gly His Leu Met Val Phe Leu Ile Phe Phe Gly Ser Val Ser Leu	
245 250 255	
atg tac ttg cgt ttc agc aac act tat cca cca gtt ttg gac aca gcc	816
Met Tyr Leu Arg Phe Ser Asn Thr Tyr Pro Pro Val Leu Asp Thr Ala	
260 265 270	
att gca ctg atg ttt act gta ctt gct cca ttc ttc aat ccc atc att	864
Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile	



275                      280                      285  
 tat agc ctg aga aac aag gac atg aac aat gca att aaa aaa ctg ttc                      912  
 Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe  
 290                      295                      300  
 tgt ctt caa aaa gtg ttg aac aag cct gga ggt taa                      948  
 Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
 305                      310                      315  
  
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 1                      5                      10                      15  
  
 Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu  
 20                      25                      30  
  
 Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala  
 35                      40                      45  
  
 Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe Ile Ser  
 50                      55                      60  
  
 Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys  
 65                      70                      75                      80  
  
 Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly  
 85                      90                      95  
  
 Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly  
 100                      105                      110  
  
 Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn  
 115                      120                      125  
  
 Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala His Leu  
 130                      135                      140  
  
 Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile  
 145                      150                      155                      160  
  
 Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln  
 165                      170                      175

Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
 180 185 190

Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile  
 195 200 205

Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile  
 210 215 220

Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys  
 225 230 235 240

Ala Gly His Leu Met Val Phe Leu Ile Phe Phe Gly Ser Val Ser Leu  
 245 250 255

Met Tyr Leu Arg Phe Ser Asn Thr Tyr Pro Pro Val Leu Asp Thr Ala  
 260 265 270

Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe  
 290 295 300

Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
 305 310 315

<210> 261  
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<220>  
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 <222> (1)..(936)  
 <223>

<400> 261  
 atg gat gga gat aac cag agt gag aac tca cag ttc ctt ctc ctg ggg 48  
 Met Asp Gly Asp Asn Gln Ser Glu Asn Ser Gln Phe Leu Leu Leu Gly  
 1 5 10 15

atc tca gag agt cct gag cag cag cgg atc ctg ttt tgg atg ttc ctg 96  
 Ile Ser Glu Ser Pro Glu Gln Gln Arg Ile Leu Phe Trp Met Phe Leu  
 20 25 30

tcc atg tac ctg gtc acg gtg ctg gga aat gtg ctc atc atc ctg gcc 144  
 Ser Met Tyr Leu Val Thr Val Leu Gly Asn Val Leu Ile Ile Leu Ala  
 35 40 45

atc agc tct gat tcc cac ctg cac acc ccc atg tac ttc ttc ctg gcc Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ala 50 55 60	192
aac ctc tcc ttc act gac ctc ttc ttt gtc acc aac aca atc ccc aag Asn Leu Ser Phe Thr Asp Leu Phe Phe Val Thr Asn Thr Ile Pro Lys 65 70 75 80	240
atg ctg gtg aac ttc cag tcc cag aac aaa gcc atc tcc tat gca ggg Met Leu Val Asn Phe Gln Ser Gln Asn Lys Ala Ile Ser Tyr Ala Gly 85 90 95	288
tgt ctg aca cag ctc tac ttc ctg gtc tcc ttg gtg acc ctg gac aac Cys Leu Thr Gln Leu Tyr Phe Leu Val Ser Leu Val Thr Leu Asp Asn 100 105 110	336
ctc atc ctg gcc gtg atg gcg tat gat cgc tat gtg gcc acc tgc tgc Leu Ile Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Thr Cys Cys 115 120 125	384
ccc ctc cac tat gtc aca gcc atg agc cct ggg ctc tgt gtc ttg ctc Pro Leu His Tyr Val Thr Ala Met Ser Pro Gly Leu Cys Val Leu Leu 130 135 140	432
ctc tcc ttg tgt tgg ggg ctg tct gtt ctc tat ggc ctc ctc ctc acc Leu Ser Leu Cys Trp Gly Leu Ser Val Leu Tyr Gly Leu Leu Leu Thr 145 150 155 160	480
ttc ctc ctg acc agg gtg acc ttc tgt ggg cct cga gag atc cac tac Phe Leu Leu Thr Arg Val Thr Phe Cys Gly Pro Arg Glu Ile His Tyr 165 170 175	528
ctc ttc tgt gac atg tac atc ctg ctg tgg ctg gca tgt tcc aac acc Leu Phe Cys Asp Met Tyr Ile Leu Leu Trp Leu Ala Cys Ser Asn Thr 180 185 190	576
cac atc att cac aca gcg ttg att gcc act ggc tgc ttc atc ttc ctc His Ile Ile His Thr Ala Leu Ile Ala Thr Gly Cys Phe Ile Phe Leu 195 200 205	624
acc ccc tta ggg ttc atg acc aca tcc tat gta cgt att gtc aga acc Thr Pro Leu Gly Phe Met Thr Thr Ser Tyr Val Arg Ile Val Arg Thr 210 215 220	672
atc ctt caa atg ccc tcg gcc tct aag aaa tac aaa acc ttc tct acc Ile Leu Gln Met Pro Ser Ala Ser Lys Lys Tyr Lys Thr Phe Ser Thr 225 230 235 240	720
tgt gcc tcc cat ttg ggt gtg gtc tcc ctc ttt tat ggg acg ctt gct Cys Ala Ser His Leu Gly Val Val Ser Leu Phe Tyr Gly Thr Leu Ala 245 250 255	768
atg gtg tac ctg cag ccc ctc cat acc tac tcc atg aag gac tca gta Met Val Tyr Leu Gln Pro Leu His Thr Tyr Ser Met Lys Asp Ser Val 260 265 270	816
gcc aca gtg atg tat gct gtg ctg aca cct atg atg aac cct ttc atc Ala Thr Val Met Tyr Ala Val Leu Thr Pro Met Met Asn Pro Phe Ile 275 280 285	864
tac agg ctg agg aac aaa gac atg cat ggg gct ccg gga aga gtc cta	912

Tyr Arg Leu Arg Asn Lys Asp Met His Gly Ala Pro Gly Arg Val Leu  
 290 295 300

tgg aga ccc ttt cag agg cct aaa tga  
 Trp Arg Pro Phe Gln Arg Pro Lys  
 305 310

939

<210> 262  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 262

Met Asp Gly Asp Asn Gln Ser Glu Asn Ser Gln Phe Leu Leu Leu Gly  
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Ile Ser Glu Ser Pro Glu Gln Gln Arg Ile Leu Phe Trp Met Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Val Leu Gly Asn Val Leu Ile Ile Leu Ala  
 35 40 45

Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ser Phe Thr Asp Leu Phe Phe Val Thr Asn Thr Ile Pro Lys  
 65 70 75 80

Met Leu Val Asn Phe Gln Ser Gln Asn Lys Ala Ile Ser Tyr Ala Gly  
 85 90 95

Cys Leu Thr Gln Leu Tyr Phe Leu Val Ser Leu Val Thr Leu Asp Asn  
 100 105 110

Leu Ile Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Thr Cys Cys  
 115 120 125

Pro Leu His Tyr Val Thr Ala Met Ser Pro Gly Leu Cys Val Leu Leu  
 130 135 140

Leu Ser Leu Cys Trp Gly Leu Ser Val Leu Tyr Gly Leu Leu Leu Thr  
 145 150 155 160

Phe Leu Leu Thr Arg Val Thr Phe Cys Gly Pro Arg Glu Ile His Tyr  
 165 170 175

Leu Phe Cys Asp Met Tyr Ile Leu Leu Trp Leu Ala Cys Ser Asn Thr  
 180 185 190

His Ile Ile His Thr Ala Leu Ile Ala Thr Gly Cys Phe Ile Phe Leu  
 195 200 205

Thr Pro Leu Gly Phe Met Thr Thr Ser Tyr Val Arg Ile Val Arg Thr  
 210 215 220

Ile Leu Gln Met Pro Ser Ala Ser Lys Lys Tyr Lys Thr Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Gly Val Val Ser Leu Phe Tyr Gly Thr Leu Ala  
 245 250 255

Met Val Tyr Leu Gln Pro Leu His Thr Tyr Ser Met Lys Asp Ser Val  
 260 265 270

Ala Thr Val Met Tyr Ala Val Leu Thr Pro Met Met Asn Pro Phe Ile  
 275 280 285

Tyr Arg Leu Arg Asn Lys Asp Met His Gly Ala Pro Gly Arg Val Leu  
 290 295 300

Trp Arg Pro Phe Gln Arg Pro Lys  
 305 310

<210> 263  
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<400> 263  
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 Met Gln Gln Asn Asn Ser Val Pro Glu Phe Ile Leu Leu Gly Leu Thr  
 1 5 10 15  
 cag gat ccc ttg agg cag aaa ata gtg ttt gta atc ttc tta att ttc 96  
 Gln Asp Pro Leu Arg Gln Lys Ile Val Phe Val Ile Phe Leu Ile Phe  
 20 25 30  
 tat atg gga act gtg gtg ggg aat atg ctc att att gtg acc atc aag 144  
 Tyr Met Gly Thr Val Val Gly Asn Met Leu Ile Ile Val Thr Ile Lys  
 35 40 45  
 tcc agc cgg aca cta gga agc ccc atg tac ttc ttt cta ttt tat ttg 192  
 Ser Ser Arg Thr Leu Gly Ser Pro Met Tyr Phe Phe Leu Phe Tyr Leu  
 50 55 60

tcc ttt gca gat tct tgc ttt tca act tcc aca gcc cct aga tta att	240
Ser Phe Ala Asp Ser Cys Phe Ser Thr Ser Thr Ala Pro Arg Leu Ile	
65 70 75 80	
gtg gat gct ctc tct gaa aag aaa att ata acc tac aat gag tgc atg	288
Val Asp Ala Leu Ser Glu Lys Lys Ile Ile Thr Tyr Asn Glu Cys Met	
85 90 95	
aca caa gtc ttt gca cta cat tta ttt ggc tgc atg gag atc ttt gtc	336
Thr Gln Val Phe Ala Leu His Leu Phe Gly Cys Met Glu Ile Phe Val	
100 105 110	
ctc att ctc atg gct gtt gat cgc tat gtg gcc atc tgt aag ccc ttg	384
Leu Ile Leu Met Ala Val Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu	
115 120 125	
cgt tac cca acc atc atg agc cag cag gtc tgc atc atc ctg att gtt	432
Arg Tyr Pro Thr Ile Met Ser Gln Gln Val Cys Ile Ile Leu Ile Val	
130 135 140	
ctt gcc tgg ata ggg tct tta ata cac tct aca gct cag att atc ctg	480
Leu Ala Trp Ile Gly Ser Leu Ile His Ser Thr Ala Gln Ile Ile Leu	
145 150 155 160	
gcc tta aga ttg cct ttc tgt gga ccc tat ttg att gat cat tat tgc	528
Ala Leu Arg Leu Pro Phe Cys Gly Pro Tyr Leu Ile Asp His Tyr Cys	
165 170 175	
tgt gat ttg cag ccc ttg ttg aaa ctt gcc tgc atg gac act tac atg	576
Cys Asp Leu Gln Pro Leu Leu Lys Leu Ala Cys Met Asp Thr Tyr Met	
180 185 190	
atc aac ctg ctg ttg gtg tct aac agt ggg gca att tgc tca agt agt	624
Ile Asn Leu Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ser Ser Ser	
195 200 205	
ttc atg att ttg ata att tca tat att gtc atc ttg cat tca ctg aga	672
Phe Met Ile Leu Ile Ile Ser Tyr Ile Val Ile Leu His Ser Leu Arg	
210 215 220	
aac cac agt gcc aaa ggg aag aaa aag gct ctc tcc gct tgc acg tct	720
Asn His Ser Ala Lys Gly Lys Lys Lys Ala Leu Ser Ala Cys Thr Ser	
225 230 235 240	
cac ata att gta gtc atc tta ttc ttt ggc cca tgt ata ttc ata tat	768
His Ile Ile Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile Tyr	
245 250 255	
aca cgc ccc ccg acc act ttc ccc atg gac aag atg gtg gca gta ttt	816
Thr Arg Pro Pro Thr Thr Phe Pro Met Asp Lys Met Val Ala Val Phe	
260 265 270	
tat act att gga aca ccc ttt ctc aat cca ctc atc tac aca tct gag	864
Tyr Thr Ile Gly Thr Pro Phe Leu Asn Pro Leu Ile Tyr Thr Ser Glu	
275 280 285	
gaa tgc aga agt gaa aaa tgc cat gag aaa	894
Glu Cys Arg Ser Glu Lys Cys His Glu	
290 295	

<210> 264  
 <211> 297  
 <212> PRT  
 <213> Homo Sapiens

<400> 264

Met Gln Gln Asn Asn Ser Val Pro Glu Phe Ile Leu Leu Gly Leu Thr  
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Gln Asp Pro Leu Arg Gln Lys Ile Val Phe Val Ile Phe Leu Ile Phe  
 20 25 30

Tyr Met Gly Thr Val Val Gly Asn Met Leu Ile Ile Val Thr Ile Lys  
 35 40 45

Ser Ser Arg Thr Leu Gly Ser Pro Met Tyr Phe Phe Leu Phe Tyr Leu  
 50 55 60

Ser Phe Ala Asp Ser Cys Phe Ser Thr Ser Thr Ala Pro Arg Leu Ile  
 65 70 75 80

Val Asp Ala Leu Ser Glu Lys Lys Ile Ile Thr Tyr Asn Glu Cys Met  
 85 90 95

Thr Gln Val Phe Ala Leu His Leu Phe Gly Cys Met Glu Ile Phe Val  
 100 105 110

Leu Ile Leu Met Ala Val Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

Arg Tyr Pro Thr Ile Met Ser Gln Gln Val Cys Ile Ile Leu Ile Val  
 130 135 140

Leu Ala Trp Ile Gly Ser Leu Ile His Ser Thr Ala Gln Ile Ile Leu  
 145 150 155 160

Ala Leu Arg Leu Pro Phe Cys Gly Pro Tyr Leu Ile Asp His Tyr Cys  
 165 170 175

Cys Asp Leu Gln Pro Leu Leu Lys Leu Ala Cys Met Asp Thr Tyr Met  
 180 185 190

Ile Asn Leu Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ser Ser Ser  
 195 200 205

Phe Met Ile Leu Ile Ile Ser Tyr Ile Val Ile Leu His Ser Leu Arg

210	215	220	
Asn His Ser Ala Lys Gly Lys Lys Lys Ala Leu Ser Ala Cys Thr Ser			
225	230	235	240
His Ile Ile Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile Tyr			
	245	250	255
Thr Arg Pro Pro Thr Thr Phe Pro Met Asp Lys Met Val Ala Val Phe			
	260	265	270
Tyr Thr Ile Gly Thr Pro Phe Leu Asn Pro Leu Ile Tyr Thr Ser Glu			
	275	280	285
Glu Cys Arg Ser Glu Lys Cys His Glu			
	290	295	
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<223>			
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atg gaa aga gca aac cat tca gtg gta tcg gaa ttt att ttg ttg gga			48
Met Glu Arg Ala Asn His Ser Val Val Ser Glu Phe Ile Leu Leu Gly			
1	5	10	15
ctt tcc aaa tct caa aat ctt cag att tta ttc ttc ttg gga ttc tct			96
Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly Phe Ser			
	20	25	30
gtg gtc ttc gtg ggg att gtg tta gga aac ctg ctc atc ttg gtg act			144
Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu Val Thr			
	35	40	45
gtg acc ttt gat tcg ctc ctt cac aca cca atg tat ttt ctg ctt agc			192
Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu Leu Ser			
	50	55	60
aac ctc tcc tgc att gat atg atc ctg gct tct ttt gct acc cct aag			240
Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr Pro Lys			
65	70	75	80
atg att gta gat ttc ctc cga gaa cgt aag acc atc tca tgg tgg gga			288
Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp Trp Gly			
	85	90	95
tgt tat tcc cag atg ttc ttt atg cac ctc ctg ggt ggg agt gag atg			336
Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser Glu Met			



100	105	110	
atg ttg ctt gta gcc atg gca ata gac agg tat gtt gcc ata tgc aaa			384
Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys			
115	120	125	
ccc ctc cat tac atg acc atc atg agc cca cgg gtg ctc act ggg cta			432
Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu			
130	135	140	
ctg tta tcc tcc tat gca gtt gga ttt gtg cac tca tct agt caa atg			480
Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met			
145	150	155	160
gct ttc atg ttg act ttg ccc ttc tgt ggt ccc aat gtt ata gac agc			528
Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser			
165	170	175	
ttt ttc tgt gac ctt ccc ctt gtg att aaa ctt gcc tgc aag gac acc			576
Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr			
180	185	190	
tac atc cta cag ctc ctg gtc att gct gac agt ggg ctc ctg tca ctg			624
Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu			
195	200	205	
gtc tgc ttc ctc ctc ttg ctt gtc tcc tat gga gtc ata ata ttc tca			672
Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser			
210	215	220	
gtt agg tac cgt gct gct agt cga tcc tct aag gct ttc tcc act ctc			720
Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu			
225	230	235	240
tca gct cac atc aca gtt gtg act ctg ttc ttt gct ccg tgt gtc ttt			768
Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe			
245	250	255	
atc tac gtc tgg ccc ttc agc aga tac tcg gta gat aaa att ctt tct			816
Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser			
260	265	270	
gtg ttt tac aca att ttc aca cct ctc tta aat cct att att tat aca			864
Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr			
275	280	285	
tta aga aat caa gag gta aaa gca gcc att aaa aaa aga ctc tgc ata			912
Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu Cys Ile			
290	295	300	
taa			915
<210> 266			
<211> 304			
<212> PRT			
<213> Homo Sapiens			
<400> 266			
Met Glu Arg Ala Asn His Ser Val Val Ser Glu Phe Ile Leu Leu Gly			

1	5	10	15
Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly Phe Ser	20	25	30
Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu Val Thr	35	40	45
Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu Leu Ser	50	55	60
Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr Pro Lys	65	70	75
Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp Trp Gly	85	90	95
Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser Glu Met	100	105	110
Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys	115	120	125
Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu	130	135	140
Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met	145	150	155
Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser	165	170	175
Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr	180	185	190
Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu	195	200	205
Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser	210	215	220
Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu	225	230	235
Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe	245	250	255

Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser  
 260 265 270

Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr  
 275 280 285

Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu Cys Ile  
 290 295 300

<210> 267  
 <211> 942  
 <212> DNA  
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<220>  
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 <223>

<400> 267  
 atg gca aat ctg agc cag ccc tcc gaa ttt gtc ctc ttg ggc ttc tcc 48  
 Met Ala Asn Leu Ser Gln Pro Ser Glu Phe Val Leu Leu Gly Phe Ser  
 1 5 10 15  
 tcc ttt ggt gag ctg cag gcc ctt ctg tat ggc ccc ttc ctc atg ctt 96  
 Ser Phe Gly Glu Leu Gln Ala Leu Leu Tyr Gly Pro Phe Leu Met Leu  
 20 25 30  
 tat ctt ctc gcc ttc atg gga aac acc atc atc ata gtt atg gtc ata 144  
 Tyr Leu Leu Ala Phe Met Gly Asn Thr Ile Ile Ile Val Met Val Ile  
 35 40 45  
 gct gac acc cac cta cat aca ccc atg tac ttc ttc ctg ggc aat ttt 192  
 Ala Asp Thr His Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Phe  
 50 55 60  
 tcc ctg ctg gag atc ttg gta acc atg act gca gtg ccc agg atg ctc 240  
 Ser Leu Leu Glu Ile Leu Val Thr Met Thr Ala Val Pro Arg Met Leu  
 65 70 75 80  
 tca gac ctg ttg gtc ccc cac aaa gtc att acc ttc act ggc tgc atg 288  
 Ser Asp Leu Leu Val Pro His Lys Val Ile Thr Phe Thr Gly Cys Met  
 85 90 95  
 gtc cag ttc tac ttc cac ttt tcc ctg ggg tcc acc tcc ttc ctc atc 336  
 Val Gln Phe Tyr Phe His Phe Ser Leu Gly Ser Thr Ser Phe Leu Ile  
 100 105 110  
 ctg aca gac atg gcc ctt gat cgc ttt gtg gcc atc tgc cac cca ctg 384  
 Leu Thr Asp Met Ala Leu Asp Arg Phe Val Ala Ile Cys His Pro Leu  
 115 120 125  
 cgc tat ggc act ctg atg agc cgg gct atg tgt gtc cag ctg gct ggg 432  
 Arg Tyr Gly Thr Leu Met Ser Arg Ala Met Cys Val Gln Leu Ala Gly  
 130 135 140

gct gcc tgg gca gct cct ttc cta gcc atg gta ccc act gtc ctc tcc 480  
 Ala Ala Trp Ala Ala Pro Phe Leu Ala Met Val Pro Thr Val Leu Ser  
 145 150 155 160

cga gct cat ctt gat tac tgc cat ggc gac gtc atc aac cac ttc ttc 528  
 Arg Ala His Leu Asp Tyr Cys His Gly Asp Val Ile Asn His Phe Phe  
 165 170 175

tgt gac aat gaa cct ctc ctg cag ttg tca tgc tct gac act cgc ctg 576  
 Cys Asp Asn Glu Pro Leu Leu Gln Leu Ser Cys Ser Asp Thr Arg Leu  
 180 185 190

ttg gaa ttc tgg gac ttt ctg atg gcc ttg acc ttt gtc ctc agc tcc 624  
 Leu Glu Phe Trp Asp Phe Leu Met Ala Leu Thr Phe Val Leu Ser Ser  
 195 200 205

ttc ctg gtg acc ctc atc tcc tat ggc tac ata gtg acc act gtg ctg 672  
 Phe Leu Val Thr Leu Ile Ser Tyr Gly Tyr Ile Val Thr Thr Val Leu  
 210 215 220

cgg atc ccc tct gcc agc agc tgc cag aag gct ttc tcc act tgc ggg 720  
 Arg Ile Pro Ser Ala Ser Ser Cys Gln Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240

tct cac ctc aca ctg gtc ttc atc ggc tac agt agt acc atc ttt ctg 768  
 Ser His Leu Thr Leu Val Phe Ile Gly Tyr Ser Ser Thr Ile Phe Leu  
 245 250 255

tat gtc agg cct ggc aaa gct cac tct gtg caa gtc agg aag gtc gtg 816  
 Tyr Val Arg Pro Gly Lys Ala His Ser Val Gln Val Arg Lys Val Val  
 260 265 270

gcc ttg gtg act tca gtt ctc acc ccc ttt ctc aat ccc ttt atc ctt 864  
 Ala Leu Val Thr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Leu  
 275 280 285

acc ttc tgc aat cag aca gtt aaa aca gtg cta cag ggg cag atg cag 912  
 Thr Phe Cys Asn Gln Thr Val Lys Thr Val Leu Gln Gly Gln Met Gln  
 290 295 300

agg ctg aaa ggc ctt tgc aag gca caa tga 942  
 Arg Leu Lys Gly Leu Cys Lys Ala Gln  
 305 310

<210> 268  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 268

Met Ala Asn Leu Ser Gln Pro Ser Glu Phe Val Leu Leu Gly Phe Ser  
 1 5 10 15

Ser Phe Gly Glu Leu Gln Ala Leu Leu Tyr Gly Pro Phe Leu Met Leu  
 20 25 30

Tyr Leu Leu Ala Phe Met Gly Asn Thr Ile Ile Ile Val Met Val Ile  
 35 40 45  
 Ala Asp Thr His Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Phe  
 50 55 60  
 Ser Leu Leu Glu Ile Leu Val Thr Met Thr Ala Val Pro Arg Met Leu  
 65 70 75 80  
 Ser Asp Leu Leu Val Pro His Lys Val Ile Thr Phe Thr Gly Cys Met  
 85 90 95  
 Val Gln Phe Tyr Phe His Phe Ser Leu Gly Ser Thr Ser Phe Leu Ile  
 100 105 110  
 Leu Thr Asp Met Ala Leu Asp Arg Phe Val Ala Ile Cys His Pro Leu  
 115 120 125  
 Arg Tyr Gly Thr Leu Met Ser Arg Ala Met Cys Val Gln Leu Ala Gly  
 130 135 140  
 Ala Ala Trp Ala Ala Pro Phe Leu Ala Met Val Pro Thr Val Leu Ser  
 145 150 155 160  
 Arg Ala His Leu Asp Tyr Cys His Gly Asp Val Ile Asn His Phe Phe  
 165 170 175  
 Cys Asp Asn Glu Pro Leu Leu Gln Leu Ser Cys Ser Asp Thr Arg Leu  
 180 185 190  
 Leu Glu Phe Trp Asp Phe Leu Met Ala Leu Thr Phe Val Leu Ser Ser  
 195 200 205  
 Phe Leu Val Thr Leu Ile Ser Tyr Gly Tyr Ile Val Thr Thr Val Leu  
 210 215 220  
 Arg Ile Pro Ser Ala Ser Ser Cys Gln Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240  
 Ser His Leu Thr Leu Val Phe Ile Gly Tyr Ser Ser Thr Ile Phe Leu  
 245 250 255  
 Tyr Val Arg Pro Gly Lys Ala His Ser Val Gln Val Arg Lys Val Val  
 260 265 270  
 Ala Leu Val Thr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Leu

275

280

285

Thr Phe Cys Asn Gln Thr Val Lys Thr Val Leu Gln Gly Gln Met Gln  
 290 295 300

Arg Leu Lys Gly Leu Cys Lys Ala Gln  
 305 310

<210> 269  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (930)  
 <223>

<400> 269  
 atg gac aac cac tct agt gcc act gaa ttc cac ctt cta ggc ttc cct 48  
 Met Asp Asn His Ser Ser Ala Thr Glu Phe His Leu Leu Gly Phe Pro  
 1 5 10 15  
 ggg tcc caa gga cta cac cac att ctt ttt gct ata ttc ttt ttc ttc 96  
 Gly Ser Gln Gly Leu His His Ile Leu Phe Ala Ile Phe Phe Phe  
 20 25 30  
 tat tta gtg aca tta atg gga aac acg gtc atc att gtg att gtc tgt 144  
 Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Val Ile Val Cys  
 35 40 45  
 gtg gat aaa cgt ctg cag tcc ccc atg tat ttc ttc ctc agc cac ctc 192  
 Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60  
 tct acc ctg gag atc ctg gtc aca acc ata att gtc ccc atg atg ctt 240  
 Ser Thr Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Met Met Leu  
 65 70 75 80  
 tgg gga ttg ctc ttc ctg gga tgc aga cag tat ctt tct cta cat gta 288  
 Trp Gly Leu Leu Phe Leu Gly Cys Arg Gln Tyr Leu Ser Leu His Val  
 85 90 95  
 tcg ctc aac ttt tcc tgt ggg acc atg gag ttt gca tta ctt gga gtg 336  
 Ser Leu Asn Phe Ser Cys Gly Thr Met Glu Phe Ala Leu Leu Gly Val  
 100 105 110  
 atg gct gtg gac cgt tat gtg gct gtg tgt aac cct ttg agg tac aac 384  
 Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn Pro Leu Arg Tyr Asn  
 115 120 125  
 atc att atg aac agc agt acc tgt att tgg gtg gta ata gtg tca tgg 432  
 Ile Ile Met Asn Ser Ser Thr Cys Ile Trp Val Val Ile Val Ser Trp  
 130 135 140  
 gtg ttt gga ttt ctt tct gaa atc tgg ccc atc tat gcc aca ttt cag 480  
 Val Phe Gly Phe Leu Ser Glu Ile Trp Pro Ile Tyr Ala Thr Phe Gln

145	150	155	160	
ttt acc ttc cgc aaa tca aat tca tta gac cat ttt tac tgt gac cga				528
Phe Thr Phe Arg Lys Ser Asn Ser Leu Asp His Phe Tyr Cys Asp Arg	165	170	175	
ggg caa ttg ctc aaa ctg tcc tgc gat aac act ctt ctc aca gag ttt				576
Gly Gln Leu Leu Lys Leu Ser Cys Asp Asn Thr Leu Leu Thr Glu Phe	180	185	190	
atc ctt ttc tta atg gct gtt ttt att ctc att ggt tct ttg atc cct				624
Ile Leu Phe Leu Met Ala Val Phe Ile Leu Ile Gly Ser Leu Ile Pro	195	200	205	
acg att gtc tcc tac acc tac att atc tcc acc atc ctc aag atc ccg				672
Thr Ile Val Ser Tyr Thr Tyr Ile Ile Ser Thr Ile Leu Lys Ile Pro	210	215	220	
tca gcc tct ggc cgg agg aaa gcc ttc tcc act ttt gcc tcc cac ttc				720
Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser Thr Phe Ala Ser His Phe	225	230	235	240
acc tgt gtt gtg att ggc tat ggc agc tgc ttg ttt ctc tac gtg aaa				768
Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu Phe Leu Tyr Val Lys	245	250	255	
ccc aag caa aca cag gga gtt gag tac aat aag ata gtt tcc ctg ttg				816
Pro Lys Gln Thr Gln Gly Val Glu Tyr Asn Lys Ile Val Ser Leu Leu	260	265	270	
gtt tct gtg tta acc ccc ttc ctg aat cct ttc atc ttt act ctt cgg				864
Val Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Phe Thr Leu Arg	275	280	285	
aat gac aaa gtc aaa gag gcc ctc cga gat ggg atg aaa cgc tgc tgt				912
Asn Asp Lys Val Lys Glu Ala Leu Arg Asp Gly Met Lys Arg Cys Cys	290	295	300	
caa ctc ctg aaa gat tag				930
Gln Leu Leu Lys Asp	305			

&lt;210&gt; 270

&lt;211&gt; 309

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 270

Met Asp Asn His Ser Ser Ala Thr Glu Phe His Leu Leu Gly Phe Pro			
1	5	10	15

Gly Ser Gln Gly Leu His His Ile Leu Phe Ala Ile Phe Phe Phe Phe			
20	25	30	

Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Val Ile Val Cys			
35	40	45	

Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60

Ser Thr Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Met Met Leu  
 65 70 75 80

Trp Gly Leu Leu Phe Leu Gly Cys Arg Gln Tyr Leu Ser Leu His Val  
 85 90 95

Ser Leu Asn Phe Ser Cys Gly Thr Met Glu Phe Ala Leu Leu Gly Val  
 100 105 110

Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn Pro Leu Arg Tyr Asn  
 115 120 125

Ile Ile Met Asn Ser Ser Thr Cys Ile Trp Val Val Ile Val Ser Trp  
 130 135 140

Val Phe Gly Phe Leu Ser Glu Ile Trp Pro Ile Tyr Ala Thr Phe Gln  
 145 150 155 160

Phe Thr Phe Arg Lys Ser Asn Ser Leu Asp His Phe Tyr Cys Asp Arg  
 165 170 175

Gly Gln Leu Leu Lys Leu Ser Cys Asp Asn Thr Leu Leu Thr Glu Phe  
 180 185 190

Ile Leu Phe Leu Met Ala Val Phe Ile Leu Ile Gly Ser Leu Ile Pro  
 195 200 205

Thr Ile Val Ser Tyr Thr Tyr Ile Ile Ser Thr Ile Leu Lys Ile Pro  
 210 215 220

Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser Thr Phe Ala Ser His Phe  
 225 230 235 240

Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu Phe Leu Tyr Val Lys  
 245 250 255

Pro Lys Gln Thr Gln Gly Val Glu Tyr Asn Lys Ile Val Ser Leu Leu  
 260 265 270

Val Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Phe Thr Leu Arg  
 275 280 285



Asn Asp Lys Val Lys Glu Ala Leu Arg Asp Gly Met Lys Arg Cys Cys  
 290 295 300

Gln Leu Leu Lys Asp  
 305

<210> 271  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(948)  
 <223>

<400> 271  
 atg cag ggg cta aac cac acc tcc gtg tct gaa ttc atc ctc gtt ggc 48  
 Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile Leu Val Gly  
 1 5 10 15  
 ttc tct gcc ttc ccc cac ctc cag ctg atg ctc ttc ctg ctg ttc ctg 96  
 Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu Leu Phe Leu  
 20 25 30  
 ctg atg tac ctg ttc acg ctg ctg ggc aac ctg ctc atc atg gcc act 144  
 Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala Thr  
 35 40 45  
 gtc tgg agc gag cgc agc ctc cac atg ccc atg tac ctc ttc ctg tgt 192  
 Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu Phe Leu Cys  
 50 55 60  
 gcc ctc tcc atc acc gag atc ctc tac acc gtg gcc atc atc ccg cgc 240  
 Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile Ile Pro Arg  
 65 70 75 80  
 atg ctg gcc gac ctg ctg tcc acc cag cgc tcc atc gcc ttc ctg gcc 288  
 Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala Phe Leu Ala  
 85 90 95  
 tgt gcc agt cag atg ttc ttc tcc ttc agc ttc ggc ttc acc cac tcc 336  
 Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe Thr His Ser  
 100 105 110  
 ttc ctg ctc act gtc atg ggc tac gac cgc tac gtg gcc atc tgc cac 384  
 Phe Leu Leu Thr Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 ccc ctg cgt tac aac gtg ctc atg agc ctg cgg ggc tgc acc tgc cgg 432  
 Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys Thr Cys Arg  
 130 135 140  
 gtg ggc tgc tcc tgg gct ggt ggc ttg gtc atg ggg atg gtg gtg acc 480  
 Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met Val Val Thr  
 145 150 155 160  
 tcg gcc att ttc cac ctc gcc ttc tgt gga cac aag gag atc cac cat 528

Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu Ile His His  
 165 170 175

ttc ttc tgc cac gtg cca cct ctg ttg aag ttg gcc tgt gga gat gat 576  
 Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys Gly Asp Asp  
 180 185 190

gtg ctg gtg gtg gcc aaa ggc gtg ggc ttg gtg tgt atc acg gcc ctg 624  
 Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile Thr Ala Leu  
 195 200 205

ctg ggc tgt ttt ctc ctc atc ctc ctc tcc tat gcc ttc atc gtg gcc 672  
 Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe Ile Val Ala  
 210 215 220

gcc atc ttg aag atc cct tct gct gaa ggt cgg aac aag gcc ttc tcc 720  
 Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser  
 225 230 235 240

acc tgt gcc tct cac ctc act gtg gtg gtc gtg cac tat ggc ttt gcc 768  
 Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr Gly Phe Ala  
 245 250 255

tcc gtc att tac ctg aag ccc aaa ggt ccc cag tct ccg gaa gga gac 816  
 Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Ser Pro Glu Gly Asp  
 260 265 270

acc ttg atg ggc atc acc tac acg gtc ctc aca ccc ttc ctc agc ccc 864  
 Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe Leu Ser Pro  
 275 280 285

atc atc ttc agc ctc agg aac aag gag ctg aag gtc gcc atg aag aag 912  
 Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala Met Lys Lys  
 290 295 300

act tgc ttc acc aaa ctc ttt cca cag aac tgc tga 948  
 Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys  
 305 310 315

<210> 272  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 272

Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile Leu Val Gly  
 1 5 10 15

Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu Leu Phe Leu  
 20 25 30

Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala Thr  
 35 40 45

Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu Phe Leu Cys  
 50 55 60

Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile Ile Pro Arg  
 65 70 75 80

Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala Phe Leu Ala  
 85 90 95

Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe Thr His Ser  
 100 105 110

Phe Leu Leu Thr Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys Thr Cys Arg  
 130 135 140

Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met Val Val Thr  
 145 150 155 160

Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu Ile His His  
 165 170 175

Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys Gly Asp Asp  
 180 185 190

Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile Thr Ala Leu  
 195 200 205

Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe Ile Val Ala  
 210 215 220

Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr Gly Phe Ala  
 245 250 255

Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Ser Pro Glu Gly Asp  
 260 265 270

Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe Leu Ser Pro  
 275 280 285

Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala Met Lys Lys  
 290 295 300

Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys  
 305 310 315

<210> 273  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(933)  
 <223>

<400> 273  
 atg gaa aaa ata aac aac gta act gaa ttc att ttc tgg ggt ctt tct 48  
 Met Glu Lys Ile Asn Asn Val Thr Glu Phe Ile Phe Trp Gly Leu Ser  
 1 5 10 15  
 cag agc cca gag att gag aaa gtt tgt ttt gtg gtg ttt tct ttc ttc 96  
 Gln Ser Pro Glu Ile Glu Lys Val Cys Phe Val Val Phe Ser Phe Phe  
 20 25 30  
 tac ata atc att ctt ctg gga aat ctc ctc atc atg ctg aca gtt tgc 144  
 Tyr Ile Ile Ile Leu Leu Gly Asn Leu Leu Ile Met Leu Thr Val Cys  
 35 40 45  
 ctg agc aac ctg ttt aag tca ccc atg tat ttc ttt ctc agc ttc ttg 192  
 Leu Ser Asn Leu Phe Lys Ser Pro Met Tyr Phe Phe Leu Ser Phe Leu  
 50 55 60  
 tct ttt gtg gac att tgt tac tct tca gtc aca gct ccc aag atg att 240  
 Ser Phe Val Asp Ile Cys Tyr Ser Ser Val Thr Ala Pro Lys Met Ile  
 65 70 75 80  
 gtt gac ctg tta gca aag gac aaa acc atc tcc tat gtg ggg tgc atg 288  
 Val Asp Leu Leu Ala Lys Asp Lys Thr Ile Ser Tyr Val Gly Cys Met  
 85 90 95  
 ttg caa ctg ctt gga gta cat ttc ttt ggt tgc act gag atc ttc atc 336  
 Leu Gln Leu Leu Gly Val His Phe Phe Gly Cys Thr Glu Ile Phe Ile  
 100 105 110  
 ctt act gta atg gcc tat gat cgt tat gtg gct atc tgt aaa ccc cta 384  
 Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125  
 cat tat atg acc atc atg aac cgg gag aca tgc aat aaa atg tta tta 432  
 His Tyr Met Thr Ile Met Asn Arg Glu Thr Cys Asn Lys Met Leu Leu  
 130 135 140  
 ggg acg tgg gta ggt ggg ttc tta cac tcc att atc caa gtg gct ctg 480  
 Gly Thr Trp Val Gly Phe Leu His Ser Ile Ile Gln Val Ala Leu  
 145 150 155 160  
 gta gtc caa cta ccc ttt tgt gga ccc aat gag ata gat cac tac ttt 528  
 Val Val Gln Leu Pro Phe Cys Gly Pro Asn Glu Ile Asp His Tyr Phe  
 165 170 175

tgt gat gtt cac cct gtg ttg aaa ctt gcc tgc aca gaa aca tac att 576  
 Cys Asp Val His Pro Val Leu Lys Leu Ala Cys Thr Glu Thr Tyr Ile  
 180 185 190

gtt ggt gtt gtt gtg aca gcc aac agt ggt acc att gct ctg ggg agt 624  
 Val Gly Val Val Val Thr Ala Asn Ser Gly Thr Ile Ala Leu Gly Ser  
 195 200 205

ttt gtt atc ttg cta atc tcc tac agc atc atc cta gtt tcc ctg aga 672  
 Phe Val Ile Leu Leu Ile Ser Tyr Ser Ile Ile Leu Val Ser Leu Arg  
 210 215 220

aag cag tca gca gaa ggc agg cgc aaa gcc ctc tcc acc tgt ggc tcc 720  
 Lys Gln Ser Ala Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Gly Ser  
 225 230 235 240

cac att gcc atg gtc gtt atc ttt ttc ggc ccc tgt act ttt atg tac 768  
 His Ile Ala Met Val Val Ile Phe Phe Gly Pro Cys Thr Phe Met Tyr  
 245 250 255

atg cgc cct gat acg acc ttt tca gag gat aag atg gtg gct gta ttt 816  
 Met Arg Pro Asp Thr Thr Phe Ser Glu Asp Lys Met Val Ala Val Phe  
 260 265 270

tac acc att atc act ccc atg tta aat cct ctg att tat aca ctg aga 864  
 Tyr Thr Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285

aat gca gaa gta aag aat gca atg aag aaa ctg tgg ggc aga aat gtt 912  
 Asn Ala Glu Val Lys Asn Ala Met Lys Lys Leu Trp Gly Arg Asn Val  
 290 295 300

ttc ttg gag gct aaa ggg aaa tag 936  
 Phe Leu Glu Ala Lys Gly Lys  
 305 310

<210> 274  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 274

Met Glu Lys Ile Asn Asn Val Thr Glu Phe Ile Phe Trp Gly Leu Ser  
 1 5 10 15

Gln Ser Pro Glu Ile Glu Lys Val Cys Phe Val Val Phe Ser Phe Phe  
 20 25 30

Tyr Ile Ile Ile Leu Leu Gly Asn Leu Leu Ile Met Leu Thr Val Cys  
 35 40 45

Leu Ser Asn Leu Phe Lys Ser Pro Met Tyr Phe Phe Leu Ser Phe Leu  
 50 55 60

Ser Phe Val Asp Ile Cys Tyr Ser Ser Val Thr Ala Pro Lys Met Ile

65	70	75	80
Val Asp Leu Leu Ala Lys Asp Lys Thr Ile Ser Tyr Val Gly Cys Met			
	85	90	95
Leu Gln Leu Leu Gly Val His Phe Phe Gly Cys Thr Glu Ile Phe Ile			
	100	105	110
Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu			
	115	120	125
His Tyr Met Thr Ile Met Asn Arg Glu Thr Cys Asn Lys Met Leu Leu			
	130	135	140
Gly Thr Trp Val Gly Gly Phe Leu His Ser Ile Ile Gln Val Ala Leu			
	145	150	155
Val Val Gln Leu Pro Phe Cys Gly Pro Asn Glu Ile Asp His Tyr Phe			
	165	170	175
Cys Asp Val His Pro Val Leu Lys Leu Ala Cys Thr Glu Thr Tyr Ile			
	180	185	190
Val Gly Val Val Val Thr Ala Asn Ser Gly Thr Ile Ala Leu Gly Ser			
	195	200	205
Phe Val Ile Leu Leu Ile Ser Tyr Ser Ile Ile Leu Val Ser Leu Arg			
	210	215	220
Lys Gln Ser Ala Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Gly Ser			
	225	230	235
His Ile Ala Met Val Val Ile Phe Phe Gly Pro Cys Thr Phe Met Tyr			
	245	250	255
Met Arg Pro Asp Thr Thr Phe Ser Glu Asp Lys Met Val Ala Val Phe			
	260	265	270
Tyr Thr Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg			
	275	280	285
Asn Ala Glu Val Lys Asn Ala Met Lys Lys Leu Trp Gly Arg Asn Val			
	290	295	300
Phe Leu Glu Ala Lys Gly Lys			
	305	310	

<210> 275  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

<400> 275  
 atg aat cac tct gtg gta tca gaa ttt gta ttc atg gga ctc acc aac 48  
 Met Asn His Ser Val Val Ser Glu Phe Val Phe Met Gly Leu Thr Asn  
 1 5 10 15  
 tca cgg gag att cag ctt cta ctt ttt gtt ttc tct ttg ttg ttc tac 96  
 Ser Arg Glu Ile Gln Leu Leu Leu Phe Val Phe Ser Leu Leu Phe Tyr  
 20 25 30  
 ttt gcg agc atg atg gga aac ctt gtc att gta ttc act gta acc atg 144  
 Phe Ala Ser Met Met Gly Asn Leu Val Ile Val Phe Thr Val Thr Met  
 35 40 45  
 gat gct cat ctg cac tcc ccc atg tat ttc ctc ctg gct aac ctc tca 192  
 Asp Ala His Leu His Ser Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser  
 50 55 60  
 atc att gat atg gca ttt tgc tca att aca gcc cct aag atg att tgt 240  
 Ile Ile Asp Met Ala Phe Cys Ser Ile Thr Ala Pro Lys Met Ile Cys  
 65 70 75 80  
 gat att ttc aag aag cac aag gcc atc tcc ttt cgg gga tgt att act 288  
 Asp Ile Phe Lys Lys His Lys Ala Ile Ser Phe Arg Gly Cys Ile Thr  
 85 90 95  
 cag atc ttc ttt agc cat gct ctt ggg ggc act gag atg gtg ctg ctc 336  
 Gln Ile Phe Phe Ser His Ala Leu Gly Gly Thr Glu Met Val Leu Leu  
 100 105 110  
 ata gcc atg gcc ttt gac aga tac atg gcc ata tgt aaa cct ctc cac 384  
 Ile Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His  
 115 120 125  
 tac ctg acc atc atg agc cca aga atg tgt cta tac ttt tta gcc act 432  
 Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Tyr Phe Leu Ala Thr  
 130 135 140  
 tcc tct atc att ggc ctt atc cac tca ttg gtc caa tta gtt ttt gtg 480  
 Ser Ser Ile Ile Gly Leu Ile His Ser Leu Val Gln Leu Val Phe Val  
 145 150 155 160  
 gta gat tta cct ttt tgt ggt cct aat atc ttt gac agt ttt tac tgt 528  
 Val Asp Leu Pro Phe Cys Gly Pro Asn Ile Phe Asp Ser Phe Tyr Cys  
 165 170 175  
 gat ctc cct cgg ctc ctc aga ctt gcc tgt acc aac acc caa gaa ctg 576  
 Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asn Thr Gln Glu Leu  
 180 185 190

gag ttc atg gtc act gtc aat agt gga ctc att tct gtg ggc tcc ttt 624  
 Glu Phe Met Val Thr Val Asn Ser Gly Leu Ile Ser Val Gly Ser Phe  
 195 200 205  
 gtc ttg ctg gta att tcc tac atc ttc att ctg ttc act gtt tgg aaa 672  
 Val Leu Leu Val Ile Ser Tyr Ile Phe Ile Leu Phe Thr Val Trp Lys  
 210 215 220  
 cat tct tct ggt ggt cta gcc aag gcc ctc tct acc ctg tca gct cat 720  
 His Ser Ser Gly Gly Leu Ala Lys Ala Leu Ser Thr Leu Ser Ala His  
 225 230 235 240  
 gtc act gtg gtc atc ttg ttc ttt ggg cca ctg atg ttt ttc tac aca 768  
 Val Thr Val Val Ile Leu Phe Phe Gly Pro Leu Met Phe Phe Tyr Thr  
 245 250 255  
 tgg cct tct ccc aca tca cac ctg gat aaa tat ctt gct att ttt gat 816  
 Trp Pro Ser Pro Thr Ser His Leu Asp Lys Tyr Leu Ala Ile Phe Asp  
 260 265 270  
 gca ttt att act cct ttt ctg aat cca gtt atc tac aca ttc agg aac 864  
 Ala Phe Ile Thr Pro Phe Leu Asn Pro Val Ile Tyr Thr Phe Arg Asn  
 275 280 285  
 aaa gac atg aaa gtg gca atg agg aga ctg tgc agt cgt ctt gcg cat 912  
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 290 295 300  
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 Phe Thr Lys Ile Leu  
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<400> 276

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Phe Ala Ser Met Met Gly Asn Leu Val Ile Val Phe Thr Val Thr Met  
 35 40 45

Asp Ala His Leu His Ser Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser  
 50 55 60

Ile Ile Asp Met Ala Phe Cys Ser Ile Thr Ala Pro Lys Met Ile Cys  
 65 70 75 80



Asp Ile Phe Lys Lys His Lys Ala Ile Ser Phe Arg Gly Cys Ile Thr  
                             85                            90                            95  
 Gln Ile Phe Phe Ser His Ala Leu Gly Gly Thr Glu Met Val Leu Leu  
                             100                            105                            110  
 Ile Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His  
                             115                            120                            125  
 Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Tyr Phe Leu Ala Thr  
                             130                            135                            140  
 Ser Ser Ile Ile Gly Leu Ile His Ser Leu Val Gln Leu Val Phe Val  
                             145                            150                            155                            160  
 Val Asp Leu Pro Phe Cys Gly Pro Asn Ile Phe Asp Ser Phe Tyr Cys  
                             165                            170                            175  
 Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asn Thr Gln Glu Leu  
                             180                            185                            190  
 Glu Phe Met Val Thr Val Asn Ser Gly Leu Ile Ser Val Gly Ser Phe  
                             195                            200                            205  
 Val Leu Leu Val Ile Ser Tyr Ile Phe Ile Leu Phe Thr Val Trp Lys  
                             210                            215                            220  
 His Ser Ser Gly Gly Leu Ala Lys Ala Leu Ser Thr Leu Ser Ala His  
                             225                            230                            235                            240  
 Val Thr Val Val Ile Leu Phe Phe Gly Pro Leu Met Phe Phe Tyr Thr  
                             245                            250                            255  
 Trp Pro Ser Pro Thr Ser His Leu Asp Lys Tyr Leu Ala Ile Phe Asp  
                             260                            265                            270  
 Ala Phe Ile Thr Pro Phe Leu Asn Pro Val Ile Tyr Thr Phe Arg Asn  
                             275                            280                            285  
 Lys Asp Met Lys Val Ala Met Arg Arg Leu Cys Ser Arg Leu Ala His  
                             290                            295                            300  
 Phe Thr Lys Ile Leu  
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 ctc acc aat tcc tgg gag atc cga ctt ctc ctc ctt gtg ttc tcc tcc 96  
 Leu Thr Asn Ser Trp Glu Ile Arg Leu Leu Leu Leu Val Phe Ser Ser  
 20 25 30  
 atg ttt tac atg gcc agt atg atg gga aac tct ctc att ttg ctc act 144  
 Met Phe Tyr Met Ala Ser Met Met Gly Asn Ser Leu Ile Leu Leu Thr  
 35 40 45  
 gtg act tct gac cct cac ttg cac tcc ccc atg tat ttt ctg tta gcc 192  
 Val Thr Ser Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60  
 aac ctc tcc ttc att gac ctg ggt gtt tcc tct gtc act tct ccc aaa 240  
 Asn Leu Ser Phe Ile Asp Leu Gly Val Ser Ser Val Thr Ser Pro Lys  
 65 70 75 80  
 atg att tat gac ctg ttc aga aag cac gaa gtc atc tcc ttt gga ggc 288  
 Met Ile Tyr Asp Leu Phe Arg Lys His Glu Val Ile Ser Phe Gly Gly  
 85 90 95  
 tgc atc gct caa atc ttc ttc atc cac gtc att ggc ggt gtg gag atg 336  
 Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met  
 100 105 110  
 gtg ctg ctc ata gcc atg gcc ttt gac aga tat gtg gcc ata tgt aag 384  
 Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125  
 ccc ctc cag tac ctg acc att atg agc cca aga atg tgc atg ttc ttc 432  
 Pro Leu Gln Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Met Phe Phe  
 130 135 140  
 tta gtg gct gcc tgg gtg acc ggc ctt atc cac tct gta gtt caa ttg 480  
 Leu Val Ala Ala Trp Val Thr Gly Leu Ile His Ser Val Val Gln Leu  
 145 150 155 160  
 gtt ttt gta gta aac ttg ccc ttc tgt ggt cct aat gta tcg gac agc 528  
 Val Phe Val Val Asn Leu Pro Phe Cys Gly Pro Asn Val Ser Asp Ser  
 165 170 175  
 ttt tac tgt gac ctt cct cgg ttc atc aaa ctt gcc tgc aca gac agc 576  
 Phe Tyr Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Thr Asp Ser  
 180 185 190  
 tac cga ctg gag ttc atg gtt aca gcc aac agt gga ttc atc tct ctg 624  
 Tyr Arg Leu Glu Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu

195	200	205	
ggc tcc ttc ttc ata ctg atc att tcc tat gtg gtc atc att ctc act			672
Gly Ser Phe Phe Ile Leu Ile Ile Ser Tyr Val Val Ile Ile Leu Thr			
210	215	220	
gtt ctg aaa cac tct tca gct ggt tta tcc aag gct ctg tcc acc ctt			720
Val Leu Lys His Ser Ser Ala Gly Leu Ser Lys Ala Leu Ser Thr Leu			
225	230	235	240
tca gct cac gtc agt gtg gta gtt ttg ttc ttt ggt cct ttg att ttt			768
Ser Ala His Val Ser Val Val Val Leu Phe Phe Gly Pro Leu Ile Phe			
245	250	255	
gtc tat acg tgg cca tct ccc tcc aca cac ctg gat aag ttt ctg gcc			816
Val Tyr Thr Trp Pro Ser Pro Ser Thr His Leu Asp Lys Phe Leu Ala			
260	265	270	
atc ttt gat gca gtt ctc act cct gtt tta aat cct atc atc tac aca			864
Ile Phe Asp Ala Val Leu Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr			
275	280	285	
ttc agg aat tga			876
Phe Arg Asn			
290			
<210> 278			
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Met Val Gly Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly			
1	5	10	15
Leu Thr Asn Ser Trp Glu Ile Arg Leu Leu Leu Leu Val Phe Ser Ser			
20	25	30	
Met Phe Tyr Met Ala Ser Met Met Gly Asn Ser Leu Ile Leu Leu Thr			
35	40	45	
Val Thr Ser Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala			
50	55	60	
Asn Leu Ser Phe Ile Asp Leu Gly Val Ser Ser Val Thr Ser Pro Lys			
65	70	75	80
Met Ile Tyr Asp Leu Phe Arg Lys His Glu Val Ile Ser Phe Gly Gly			
85	90	95	
Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met			
100	105	110	

Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu Gln Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Met Phe Phe  
 130 135 140

Leu Val Ala Ala Trp Val Thr Gly Leu Ile His Ser Val Val Gln Leu  
 145 150 155 160

Val Phe Val Val Asn Leu Pro Phe Cys Gly Pro Asn Val Ser Asp Ser  
 165 170 175

Phe Tyr Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Thr Asp Ser  
 180 185 190

Tyr Arg Leu Glu Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

Gly Ser Phe Phe Ile Leu Ile Ile Ser Tyr Val Val Ile Ile Leu Thr  
 210 215 220

Val Leu Lys His Ser Ser Ala Gly Leu Ser Lys Ala Leu Ser Thr Leu  
 225 230 235 240

Ser Ala His Val Ser Val Val Val Leu Phe Phe Gly Pro Leu Ile Phe  
 245 250 255

Val Tyr Thr Trp Pro Ser Pro Ser Thr His Leu Asp Lys Phe Leu Ala  
 260 265 270

Ile Phe Asp Ala Val Leu Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr  
 275 280 285

Phe Arg Asn  
 290

<210> 279  
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<400> 279

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ttc tca gcc ttc ccc cag cac ctc ctg ccc atc ttg ttc ctg ctg tac Phe Ser Ala Phe Pro Gln His Leu Leu Pro Ile Leu Phe Leu Leu Tyr 20 25 30	96
ctc ctg atg ttc ctg ttc aca ttg ctg ggc aac ctt ctc atc atg gcc Leu Leu Met Phe Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala 35 40 45	144
aca atc tgg att gaa cac aga ctc cac aca ccc atg tac ctc ttc ttg Thr Ile Trp Ile Glu His Arg Leu His Thr Pro Met Tyr Leu Phe Leu 50 55 60	192
tgc acc ctc tcc gtc tct gag att ctg ttc act gtt gcc atc acc cct Cys Thr Leu Ser Val Ser Glu Ile Leu Phe Thr Val Ala Ile Thr Pro 65 70 75 80	240
cgc atg ctg gct gat ctg ctt tcc acc cat cat tcc atc acc ttt gtg Arg Met Leu Ala Asp Leu Leu Ser Thr His His Ser Ile Thr Phe Val 85 90 95	288
gct tgt gcc aac cag atg ttc ttc tcc ttc atg ttt ggc ttc act cac Ala Cys Ala Asn Gln Met Phe Phe Ser Phe Met Phe Gly Phe Thr His 100 105 110	336
tcc ttc ctt ctc ctg gtc atg ggc tat gat cgc tat gtg gcc atc tgc Ser Phe Leu Leu Leu Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys 115 120 125	384
cac cca ctg cgt tac aat gtg ctc atg agc ccc cgt gac tgt gcc cat His Pro Leu Arg Tyr Asn Val Leu Met Ser Pro Arg Asp Cys Ala His 130 135 140	432
ctt gtg gcc tgt acc tgg gct ggt ggc tca gtc atg ggg atg atg gtg Leu Val Ala Cys Thr Trp Ala Gly Gly Ser Val Met Gly Met Met Val 145 150 155 160	480
aca acg ata gtt ttc cac ctc act ttc tgt ggg tct aat gtg atc cac Thr Thr Ile Val Phe His Leu Thr Phe Cys Gly Ser Asn Val Ile His 165 170 175	528
cat ttt ttc tgt cat gtg ctt tcc ctc ttg aag ttg gcc tgt gaa aac His Phe Phe Cys His Val Leu Ser Leu Leu Lys Leu Ala Cys Glu Asn 180 185 190	576
aag aca tca tct gtc atc atg ggt gtg atg ctg gtg tgt gtc aca gcc Lys Thr Ser Ser Val Ile Met Gly Val Met Leu Val Cys Val Thr Ala 195 200 205	624
ctg ata ggc tgt tta ttc ctc atc atc ctc tcc tat gtc ttc att gtg Leu Ile Gly Cys Leu Phe Leu Ile Ile Leu Ser Tyr Val Phe Ile Val 210 215 220	672
gct gcc atc ttg agg att ccc tct gcc gaa ggc cgg cac aag aca ttt Ala Ala Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg His Lys Thr Phe 225 230 235 240	720
tct acg tgt gta tcc cac ctc act gtg gtg gtc acg cac tat agt ttt	768

Ser Thr Cys Val Ser His Leu Thr Val Val Val Thr His Tyr Ser Phe  
 245 250 255

gcc tcc ttt atc tac ctc aag ccc aag ggc ctc cat tct atg tac agt 816  
 Ala Ser Phe Ile Tyr Leu Lys Pro Lys Gly Leu His Ser Met Tyr Ser  
 260 265 270

gac gcc ttg atg gcc acc acc tat act gtc ttc acc ccc ttc ctt agc 864  
 Asp Ala Leu Met Ala Thr Thr Tyr Thr Val Phe Thr Pro Phe Leu Ser  
 275 280 285

cca atc att ttc agc cta agg aac aag gag ctg aag aat gcc ata aat 912  
 Pro Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Asn Ala Ile Asn  
 290 295 300

aaa aac ttt tac aga aaa ttc tgt cct cca agt tcc tga 951  
 Lys Asn Phe Tyr Arg Lys Phe Cys Pro Pro Ser Ser  
 305 310 315

<210> 280  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 280

Met Pro Ser Gln Asn Tyr Ser Ile Ile Ser Glu Phe Asn Leu Phe Gly  
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Phe Ser Ala Phe Pro Gln His Leu Leu Pro Ile Leu Phe Leu Leu Tyr  
 20 25 30

Leu Leu Met Phe Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala  
 35 40 45

Thr Ile Trp Ile Glu His Arg Leu His Thr Pro Met Tyr Leu Phe Leu  
 50 55 60

Cys Thr Leu Ser Val Ser Glu Ile Leu Phe Thr Val Ala Ile Thr Pro  
 65 70 75 80

Arg Met Leu Ala Asp Leu Leu Ser Thr His His Ser Ile Thr Phe Val  
 85 90 95

Ala Cys Ala Asn Gln Met Phe Phe Ser Phe Met Phe Gly Phe Thr His  
 100 105 110

Ser Phe Leu Leu Leu Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Asn Val Leu Met Ser Pro Arg Asp Cys Ala His  
 130 135 140

Leu Val Ala Cys Thr Trp Ala Gly Gly Ser Val Met Gly Met Met Val  
 145 150 155 160  
 Thr Thr Ile Val Phe His Leu Thr Phe Cys Gly Ser Asn Val Ile His  
 165 170 175  
 His Phe Phe Cys His Val Leu Ser Leu Leu Lys Leu Ala Cys Glu Asn  
 180 185 190  
 Lys Thr Ser Ser Val Ile Met Gly Val Met Leu Val Cys Val Thr Ala  
 195 200 205  
 Leu Ile Gly Cys Leu Phe Leu Ile Ile Leu Ser Tyr Val Phe Ile Val  
 210 215 220  
 Ala Ala Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg His Lys Thr Phe  
 225 230 235 240  
 Ser Thr Cys Val Ser His Leu Thr Val Val Val Thr His Tyr Ser Phe  
 245 250 255  
 Ala Ser Phe Ile Tyr Leu Lys Pro Lys Gly Leu His Ser Met Tyr Ser  
 260 265 270  
 Asp Ala Leu Met Ala Thr Thr Tyr Thr Val Phe Thr Pro Phe Leu Ser  
 275 280 285  
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 305 310 315  
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ttc aca gat tat cta cct ctc aga gtc aca ctg ttc ttg gta ttc ctt Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu 20 25 30	96
ctg gta tat aca tta act atg gtc gga aat ata ctc tta ata att cta Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu 35 40 45	144
gtt aat att aat tca agc ctt caa att ccc atg tat tat ttt ctt agc Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser 50 55 60	192
aac tta tct ttc tta gac atc agc tgt tct aca gca atc act cct aaa Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys 65 70 75 80	240
atg ctg gca aac ttc ttg gca tcc agg aaa agc atc tct cct tat ggg Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly 85 90 95	288
tgt gca cta caa atg ttt ttc ttc gct tct ttt gct gat gct gag tgc Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys 100 105 110	336
ctt atc ctg gca gca atg gct tat gac cgc tat gca gcc atc tgc aac Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn 115 120 125	384
cca ctg ctc tat act aca ctg atg tct agg aga gtc tgt gtc tgc ttc Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe 130 135 140	432
att gtg ttg gca tat ttc agt gga agt aca aca tca ctg gtc cat gtg Ile Val Leu Ala Tyr Phe Ser Gly Ser Thr Thr Ser Leu Val His Val 145 150 155 160	480
tgc ctc aca ttc agg ctg tca ttt tgt ggc tcc aat atc gtc aat cat Cys Leu Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Ile Val Asn His 165 170 175	528
ttt ttc tgt gat atc cca cct ctt ctg gct tta tca tgt aca gac act Phe Phe Cys Asp Ile Pro Pro Leu Leu Ala Leu Ser Cys Thr Asp Thr 180 185 190	576
cag atc aac cag ctt ctg ctc ttt gct ttg tgc agc ttc atc cag acc Gln Ile Asn Gln Leu Leu Leu Phe Ala Leu Cys Ser Phe Ile Gln Thr 195 200 205	624
agc act ttt gtg gta ata ttt att tct tac ttc tgc atc ctc atc act Ser Thr Phe Val Val Ile Phe Ile Ser Tyr Phe Cys Ile Leu Ile Thr 210 215 220	672
gtg ttg agc atc aag tcc tca ggt ggc aga agc aaa aca ttc tcc act Val Leu Ser Ile Lys Ser Ser Gly Gly Arg Ser Lys Thr Phe Ser Thr 225 230 235 240	720
tgt gct tcc cac ctc ata gca gtc acc tta ttc tat gga gcg ctc ctg Cys Ala Ser His Leu Ile Ala Val Thr Leu Phe Tyr Gly Ala Leu Leu 245 250 255	768



ttt atg tac tta cag ccc acc act agc tat tcc cta gac act gat aag 816  
 Phe Met Tyr Leu Gln Pro Thr Thr Ser Tyr Ser Leu Asp Thr Asp Lys  
                   260                                  265                                  270

gtg gtg gca gtg ttt tat act gtt gta ttt ccc atg ttt aat cca ata 864  
 Val Val Ala Val Phe Tyr Thr Val Val Phe Pro Met Phe Asn Pro Ile  
                   275                                  280                                  285

att tat agt ttc aga aac aag gat gtg aaa aat gct ctc aaa aag cta 912  
 Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Asn Ala Leu Lys Lys Leu  
                   290                                  295                                  300

tta gaa aga att gga tat tca aat gaa tgg tat tta aat cgt tta aga 960  
 Leu Glu Arg Ile Gly Tyr Ser Asn Glu Trp Tyr Leu Asn Arg Leu Arg  
 305                                  310                                  315                                  320

ata gtc aat atc taa  
 Ile Val Asn Ile 975

<210> 282  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 282

Met Leu Glu Ser Asn Tyr Thr Met Pro Thr Glu Phe Leu Phe Val Gly  
 1                                  5                                  10                                  15

Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu  
                   20                                  25                                  30

Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu  
                   35                                  40                                  45

Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser  
                   50                                  55                                  60

Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys  
 65                                  70                                  75                                  80

Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly  
                   85                                  90                                  95

Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys  
                   100                                  105                                  110

Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn  
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Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe

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tta gca gac acg ctg gag cta cag att atc ctc ttt ttg ttt ttt ctt		96
Leu Ala Asp Thr Leu Glu Leu Gln Ile Ile Leu Phe Leu Phe Phe Leu		
20 25 30		
gtg att tat aca ctt aca gta ctg gga aat ctc ggg atg atc ctc tta		144
Val Ile Tyr Thr Leu Thr Val Leu Gly Asn Leu Gly Met Ile Leu Leu		
35 40 45		
atc agg atc gat tcc cag ctt cac aca ccc atg tat ttc ttc ctg gct		192
Ile Arg Ile Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ala		
50 55 60		
aac ctg tcc ttt gtg gac gtt tgt aac tca act acc atc acc cca aag		240
Asn Leu Ser Phe Val Asp Val Cys Asn Ser Thr Thr Ile Thr Pro Lys		
65 70 75 80		
atg ctg gca gat tta tta tca gag aag aaa acc atc tct ttt gct ggc		288
Met Leu Ala Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly		
85 90 95		
tgc ttc cta cag atg tac ttc ttt atc tcc ctg gcg aca acc gaa tgc		336
Cys Phe Leu Gln Met Tyr Phe Phe Ile Ser Leu Ala Thr Thr Glu Cys		
100 105 110		
atc ctc ttt ggg tta atg gcc tat gac agg tat gcg gcc ata tgt cgc		384
Ile Leu Phe Gly Leu Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Arg		
115 120 125		
ccg ctg ctt tac tcc ttg atc atg tcc agg acc gtc tac cta aaa atg		432
Pro Leu Leu Tyr Ser Leu Ile Met Ser Arg Thr Val Tyr Leu Lys Met		
130 135 140		
gca gcc ggg gct ttt gct gca ggg ttg ctg aac ttc atg gtc aac aca		480
Ala Ala Gly Ala Phe Ala Ala Gly Leu Leu Asn Phe Met Val Asn Thr		
145 150 155 160		
agc cat gtc agc agc ttg tca ttc tgt gac tcc aat gtc atc cat cac		528
Ser His Val Ser Ser Leu Ser Phe Cys Asp Ser Asn Val Ile His His		
165 170 175		
ttc ttc tgt gac agt ccc cca ctt ttc aag ctc tct tgt tct gac aca		576
Phe Phe Cys Asp Ser Pro Pro Leu Phe Lys Leu Ser Cys Ser Asp Thr		
180 185 190		
atc ctg aaa gaa agc ata agt tct att ttg gct ggt gtg aat att gtg		624
Ile Leu Lys Glu Ser Ile Ser Ser Ile Leu Ala Gly Val Asn Ile Val		
195 200 205		
ggg act ctg ctt gtc atc ctc tcc tcc tac tcc tac gtt ctc ttc tcc		672
Gly Thr Leu Leu Val Ile Leu Ser Ser Tyr Ser Tyr Val Leu Phe Ser		
210 215 220		
att ttt tct atg cat tcg ggg gag ggg agg cac aga gct ttc tcc acg		720
Ile Phe Ser Met His Ser Gly Glu Gly Arg His Arg Ala Phe Ser Thr		
225 230 235 240		

tgt gcc tct cac ctg aca gcc ata att ctg ttc tat gcc acc tgc atc 768  
 Cys Ala Ser His Leu Thr Ala Ile Ile Leu Phe Tyr Ala Thr Cys Ile  
 245 250 255  
 tat act tac ctg aga cct agt tcc agc tac tcc ctg aat cag gac aaa 816  
 Tyr Thr Tyr Leu Arg Pro Ser Ser Ser Tyr Ser Leu Asn Gln Asp Lys  
 260 265 270  
 gtg gct tct gtg ttc tac aca gtg gtg att ccc atg ttg aat cct ctg 864  
 Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 atc tac agc ctc agg agt aag gaa gta aag aag gct tta gcg aat gta 912  
 Ile Tyr Ser Leu Arg Ser Lys Glu Val Lys Lys Ala Leu Ala Asn Val  
 290 295 300  
 att agc agg aaa agg acc tct tcc ttt ctg tga 945  
 Ile Ser Arg Lys Arg Thr Ser Ser Phe Leu  
 305 310

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<400> 284

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1 5 10 15

Leu Ala Asp Thr Leu Glu Leu Gln Ile Ile Leu Phe Leu Phe Phe Leu  
20 25 30

Val Ile Tyr Thr Leu Thr Val Leu Gly Asn Leu Gly Met Ile Leu Leu  
35 40 45

Ile Arg Ile Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60

Asn Leu Ser Phe Val Asp Val Cys Asn Ser Thr Thr Ile Thr Pro Lys  
65 70 75 80

Met Leu Ala Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly  
85 90 95

Cys Phe Leu Gln Met Tyr Phe Phe Ile Ser Leu Ala Thr Thr Glu Cys  
100 105 110

Ile Leu Phe Gly Leu Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Arg  
115 120 125

Pro Leu Leu Tyr Ser Leu Ile Met Ser Arg Thr Val Tyr Leu Lys Met  
 130 135 140  
 Ala Ala Gly Ala Phe Ala Ala Gly Leu Leu Asn Phe Met Val Asn Thr  
 145 150 155 160  
 Ser His Val Ser Ser Leu Ser Phe Cys Asp Ser Asn Val Ile His His  
 165 170 175  
 Phe Phe Cys Asp Ser Pro Pro Leu Phe Lys Leu Ser Cys Ser Asp Thr  
 180 185 190  
 Ile Leu Lys Glu Ser Ile Ser Ser Ile Leu Ala Gly Val Asn Ile Val  
 195 200 205  
 Gly Thr Leu Leu Val Ile Leu Ser Ser Tyr Ser Tyr Val Leu Phe Ser  
 210 215 220  
 Ile Phe Ser Met His Ser Gly Glu Gly Arg His Arg Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ala Ile Ile Leu Phe Tyr Ala Thr Cys Ile  
 245 250 255  
 Tyr Thr Tyr Leu Arg Pro Ser Ser Ser Tyr Ser Leu Asn Gln Asp Lys  
 260 265 270  
 Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Ser Lys Glu Val Lys Lys Ala Leu Ala Asn Val  
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 305 310

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1				5					10					15			
gtc tct agc tgt cca gag ctc cag att ccc ctc ttc ctg gtc ttc cta																	96
Val	Ser	Ser	Cys	Pro	Glu	Leu	Gln	Ile	Pro	Leu	Phe	Leu	Val	Phe	Leu		
			20					25					30				
gtg ctc tat gtg ctg acc atg gca ggg aac ctg ggc atc atc acc ctc																	144
Val	Leu	Tyr	Val	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu		
			35				40					45					
acc agt gtt gac tct cga ctt caa acc ccc atg tac ttt ttc ctg aga																	192
Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg		
			50			55					60						
cat cta gct atc atc aat ctt ggc aac tct act gtc att gcc cct aaa																	240
His	Leu	Ala	Ile	Ile	Asn	Leu	Gly	Asn	Ser	Thr	Val	Ile	Ala	Pro	Lys		
					70					75					80		
atg ctg atg aac ttt tta gta aag aag aaa act acc tca ttc tat gaa																	288
Met	Leu	Met	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu		
				85				90						95			
tgt gcc acc caa ctg gga ggg ttc ttg ttc ttt att gta tgc gag gta																	336
Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val		
			100					105						110			
atg atg ctg gct gtg atg gcc tat gac cgc tat gtg gcc att tgt aac																	384
Met	Met	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
			115				120					125					
cct ctg ctc tac atg gtg gtg gtg tct cgg cgg ctc tgc ctc ctg ctg																	432
Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu		
			130			135					140						
gtg tcc ctc acg tac ctc tat ggc ttt tct aca gct att gtg gtt tca																	480
Val	Ser	Leu	Thr	Tyr	Leu	Tyr	Gly	Phe	Ser	Thr	Ala	Ile	Val	Val	Ser		
			145			150				155				160			
cct tgt ata ttc tct gtg tct tat tgc tct tct aat ata atc aat cat																	528
Pro	Cys	Ile	Phe	Ser	Val	Ser	Tyr	Cys	Ser	Ser	Asn	Ile	Ile	Asn	His		
				165				170						175			
ttt tac tgt gat att gca cct ctg tta gca tta tct tgc tct gat act																	576
Phe	Tyr	Cys	Asp	Ile	Ala	Pro	Leu	Leu	Ala	Leu	Ser	Cys	Ser	Asp	Thr		
			180				185					190					
tac ata cca gaa aca ata gtc ttt ata tct gca gca aca aat ttg ttt																	624
Tyr	Ile	Pro	Glu	Thr	Ile	Val	Phe	Ile	Ser	Ala	Ala	Thr	Asn	Leu	Phe		
			195			200						205					
ttt tcc atg att aca gtt cta gta tct tat ttc aat att gtt ttg tcc																	672
Phe	Ser	Met	Ile	Thr	Val	Leu	Val	Ser	Tyr	Phe	Asn	Ile	Val	Leu	Ser		
			210			215				220							
att cta agg ata cgt tca cca gaa gga agg aaa aaa gcc ttt tcc acc																	720
Ile	Leu	Arg	Ile	Arg	Ser	Pro	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr		
			225			230				235				240			
tgc gct tgc cat atg ata gca gtc acg gtt ttc tat ggg aca atg cta																	768
Cys	Ala	Ser	His	Met	Ile	Ala	Val	Thr	Val	Phe	Tyr	Gly	Thr	Met	Leu		

245	250	255	
ttt atg tat ttg cag ccc caa acc aac cac tca ctg gat act gat aag			816
Phe Met Tyr Leu Gln Pro Gln Thr Asn His Ser Leu Asp Thr Asp Lys			
260	265	270	
atg gct tct gtg ttt tac aca ttg gtg att cct atg ctg aat ccc ttg			864
Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu			
275	280	285	
atc tac agc ctg agg aat aat gat gta aat gtt gcc tta aag aaa ttc			912
Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe			
290	295	300	
atg gaa aat cca tgt tac tcc ttt aaa tca atg taa			948
Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met			
305	310	315	
<210>	286		
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<213>	Homo Sapiens		
<400>	286		
Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly			
1	5	10	15
Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu			
20	25	30	
Val Leu Tyr Val Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu			
35	40	45	
Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg			
50	55	60	
His Leu Ala Ile Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys			
65	70	75	80
Met Leu Met Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu			
85	90	95	
Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val			
100	105	110	
Met Met Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn			
115	120	125	
Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu			
130	135	140	

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser  
145 150 155 160

Pro Cys Ile Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His  
165 170 175

Phe Tyr Cys Asp Ile Ala Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
180 185 190

Tyr Ile Pro Glu Thr Ile Val Phe Ile Ser Ala Ala Thr Asn Leu Phe  
195 200 205

Phe Ser Met Ile Thr Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser  
210 215 220

Ile Leu Arg Ile Arg Ser Pro Glu Gly Arg Lys Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Met Ile Ala Val Thr Val Phe Tyr Gly Thr Met Leu  
245 250 255

Phe Met Tyr Leu Gln Pro Gln Thr Asn His Ser Leu Asp Thr Asp Lys  
260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe  
290 295 300

Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met  
305 310 315

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1 5 10 15

48



ttt gca aat cac cct gaa tta caa gtc agt ctt ttc ttg atg ttt ctc Phe Ala Asn His Pro Glu Leu Gln Val Ser Leu Phe Leu Met Phe Leu 20 25 30	96
ttc att tat cta ttc act gtt ttg gga aac ctg gga ctg atc acg tta Phe Ile Tyr Leu Phe Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu 35 40 45	144
atc aga atg gat tct cag ctt cac acc cct atg tac ttt ttc ctg agc Ile Arg Met Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser 50 55 60	192
aat tta gca ttt att gac ata ttt tac tcc tct act gta aca cct aag Asn Leu Ala Phe Ile Asp Ile Phe Tyr Ser Ser Thr Val Thr Pro Lys 65 70 75 80	240
gca ttg gtg aat ttc caa tcc aat cgg aga tcc atc tcc ttt gtt ggc Ala Leu Val Asn Phe Gln Ser Asn Arg Arg Ser Ile Ser Phe Val Gly 85 90 95	288
tgc ttt gtt caa atg tac ttt ttt gtt gga ttg gtg tgt tgt gag tgt Cys Phe Val Gln Met Tyr Phe Phe Val Gly Leu Val Cys Cys Glu Cys 100 105 110	336
ttc ctt ctg gga tca atg gcc tac aat cgc tac ata gca atc tgc aat Phe Leu Leu Gly Ser Met Ala Tyr Asn Arg Tyr Ile Ala Ile Cys Asn 115 120 125	384
ccc tta ctg tat tca gta gtc atg tcc caa aaa gtg tcc aac tgg ctg Pro Leu Leu Tyr Ser Val Val Met Ser Gln Lys Val Ser Asn Trp Leu 130 135 140	432
gga gta atg cca tat gtg ata ggc ttc aca agc tcg ctg ata tct gtc Gly Val Met Pro Tyr Val Ile Gly Phe Thr Ser Ser Leu Ile Ser Val 145 150 155 160	480
tgg gtg ata agc agt ttg gcg ttc tgt gat tcc agc atc aat cat ttt Trp Val Ile Ser Ser Leu Ala Phe Cys Asp Ser Ser Ile Asn His Phe 165 170 175	528
ttt tgt gac acc aca gct ctt tta gca ctc tcc tgt gta gat aca ttc Phe Cys Asp Thr Thr Ala Leu Leu Ala Leu Ser Cys Val Asp Thr Phe 180 185 190	576
ggc aca gaa atg gtg agc ttt gtc tta gct gga ttc act ctt ctt agc Gly Thr Glu Met Val Ser Phe Val Leu Ala Gly Phe Thr Leu Leu Ser 195 200 205	624
tct ctc ctt atc atc aca gtc act tat atc atc atc atc tca gcc atc Ser Leu Leu Ile Ile Thr Val Thr Tyr Ile Ile Ile Ile Ser Ala Ile 210 215 220	672
ctg agg atc cag tca gca gca ggc agg cag aag gcc ttc tcc acc tgc Leu Arg Ile Gln Ser Ala Ala Gly Arg Gln Lys Ala Phe Ser Thr Cys 225 230 235 240	720
gca tcc cac ctc atg gct gta act atc ttt tat ggg tct ctg att ttc Ala Ser His Leu Met Ala Val Thr Ile Phe Tyr Gly Ser Leu Ile Phe 245 250 255	768
acc tat ttg caa cct gat aac aca tca tcg ctg acc cag gcg cag gtg	816

Thr Tyr Leu Gln Pro Asp Asn Thr Ser Ser Leu Thr Gln Ala Gln Val  
 260 265 270

gca tct gta ttc tat acg att gtc att ccc atg ctg aat cca ctc atc 864  
 Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285

tac agt ctg agg aac aaa gat gtg aaa aat gct ctt ctg aga gtc ata 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Asn Ala Leu Leu Arg Val Ile  
 290 295 300

cat aga aaa ctt ttt cca tga 933  
 His Arg Lys Leu Phe Pro  
 305 310

<210> 288  
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 <212> PRT  
 <213> Homo Sapiens

<400> 288

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Phe Ala Asn His Pro Glu Leu Gln Val Ser Leu Phe Leu Met Phe Leu  
 20 25 30

Phe Ile Tyr Leu Phe Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu  
 35 40 45

Ile Arg Met Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ala Phe Ile Asp Ile Phe Tyr Ser Ser Thr Val Thr Pro Lys  
 65 70 75 80

Ala Leu Val Asn Phe Gln Ser Asn Arg Arg Ser Ile Ser Phe Val Gly  
 85 90 95

Cys Phe Val Gln Met Tyr Phe Phe Val Gly Leu Val Cys Cys Glu Cys  
 100 105 110

Phe Leu Leu Gly Ser Met Ala Tyr Asn Arg Tyr Ile Ala Ile Cys Asn  
 115 120 125

Pro Leu Leu Tyr Ser Val Val Met Ser Gln Lys Val Ser Asn Trp Leu  
 130 135 140

Gly Val Met Pro Tyr Val Ile Gly Phe Thr Ser Ser Leu Ile Ser Val  
 145 150 155 160

Trp Val Ile Ser Ser Leu Ala Phe Cys Asp Ser Ser Ile Asn His Phe  
 165 170 175  
 Phe Cys Asp Thr Thr Ala Leu Leu Ala Leu Ser Cys Val Asp Thr Phe  
 180 185 190  
 Gly Thr Glu Met Val Ser Phe Val Leu Ala Gly Phe Thr Leu Leu Ser  
 195 200 205  
 Ser Leu Leu Ile Ile Thr Val Thr Tyr Ile Ile Ile Ile Ser Ala Ile  
 210 215 220  
 Leu Arg Ile Gln Ser Ala Ala Gly Arg Gln Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 Ala Ser His Leu Met Ala Val Thr Ile Phe Tyr Gly Ser Leu Ile Phe  
 245 250 255  
 Thr Tyr Leu Gln Pro Asp Asn Thr Ser Ser Leu Thr Gln Ala Gln Val  
 260 265 270  
 Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
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 Tyr Ser Leu Arg Asn Lys Asp Val Lys Asn Ala Leu Leu Arg Val Ile  
 290 295 300  
 His Arg Lys Leu Phe Pro  
 305 310  
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 1 5 10 15  
 gga ctg aca ctt tct gaa gag atc cag atg gct ctg ttt atg cta ttt 96  
 Gly Leu Thr Leu Ser Glu Glu Ile Gln Met Ala Leu Phe Met Leu Phe  
 20 25 30

ctc ctg ata tac cta att act atg ctg ggg aat gtg ggg atg ata ttg Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu	144
35 40 45	
ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu	192
50 55 60	
act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro	240
65 70 75 80	
aaa acc tta gcg aac tta ctg act tcc aac tat att tcc ttt acg ggc Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly	288
85 90 95	
tgc ttt gcc cag atg ttc ttt ttt gcc ttc ttg ggt act gct gaa tgt Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys	336
100 105 110	
tac ctt ctc tcc tca atg gcc cat gat cgc tat gca gcg atc tgc agt Tyr Leu Leu Ser Ser Met Ala His Asp Arg Tyr Ala Ala Ile Cys Ser	384
115 120 125	
cct cta cac tac aca gtt att atg tcc aaa agg ctc tgc ctc gct ctc Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu	432
130 135 140	
atc act ggg cct tat gtg att ggc ttt ata gac tcc ttt gtc aac gtg Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val	480
145 150 155 160	
gtt tcc atg agc aga ttg cat ttc tac gac tca aac gta att cat cac Val Ser Met Ser Arg Leu His Phe Tyr Asp Ser Asn Val Ile His His	528
165 170 175	
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gat aca Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr	576
180 185 190	
tac aac acc gaa atc ctg ata ttc att att gtt ggt tcc acc ctg atg Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met	624
195 200 205	
gtg tcc ctt ttc aca ata tct gca tcc tat gtg ttc att ctc ttt acc Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr	672
210 215 220	
atc ctg aaa att aat tcc act tca gga aag cag aaa gct ttc tct act Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr	720
225 230 235 240	
tgc gtc tct cat ctc ttg gga gtc acc atc ttt tat agc act ctg att Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile	768
245 250 255	
ttt act tat tta aaa cca aga aag tct tat tcc ttg gga aga gat caa Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln	816
260 265 270	

gtg gct tct gtt ttt tat act att gtg att ccc gtg ctg aat cca ctc 864  
 Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Val Leu Asn Pro Leu  
                   275                                  280                                  285

att tat agt ctt aga aac aaa gag gtg aaa aat gct gtc atc aga gtc 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Val Ile Arg Val  
                   290                                  295                                  300

atg cag aga aga cag gac tcc agg taa 939  
 Met Gln Arg Arg Gln Asp Ser Arg  
                   305                                  310

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 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 290

Met Met Gly Arg Arg Asn Asn Thr Asn Val Ala Asp Phe Ile Leu Met  
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Gly Leu Thr Leu Ser Glu Glu Ile Gln Met Ala Leu Phe Met Leu Phe  
                   20                                  25                                  30

Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu  
                   35                                  40                                  45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
                   50                                  55                                  60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
   65                                  70                                  75                                  80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
                   85                                  90                                  95

Cys Phe Ala Gln Met Phe Phe Phe Ala\_Phe\_Leu Gly Thr Ala Glu Cys  
                   100                                  105                                  110

Tyr Leu Leu Ser Ser Met Ala His Asp Arg Tyr Ala Ala Ile Cys Ser  
                   115                                  120                                  125

Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu  
                   130                                  135                                  140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val  
   145                                  150                                  155                                  160

Val Ser Met Ser Arg Leu His Phe Tyr Asp Ser Asn Val Ile His His

165                                      170                                      175  
 Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
    180                                      185                                      190  
 Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met  
    195                                      200                                      205  
 Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr  
    210                                      215                                      220  
 Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr  
    225                                      230                                      235                                      240  
 Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile  
    245                                      250                                      255  
 Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln  
    260                                      265                                      270  
 Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Val Leu Asn Pro Leu  
    275                                      280                                      285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Val Ile Arg Val  
    290                                      295                                      300  
 Met Gln Arg Arg Gln Asp Ser Arg  
    305                                      310

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<400> 291  
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 1                                      5                                      10                                      15  
 gga ctg tca gac tct gaa gag gtc cag atg gct ctg ttt atg cta ttt                                      96  
 Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe  
    20                                      25                                      30  
 ctc ctc ata tac cta att act atg ctg ggg aat gtg ggg atg cta ttg                                      144  
 Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu

35	40	45	
ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu 50 55 60			192
act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro 65 70 75 80			240
aaa acc tta gcg aac tta ctg act tcc aac tat att tcc ttc acg ggc Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly 85 90 95			288
tgc ttt gcc cag atg ttc tgt ttt gtc ttc ttg ggt act gct gaa tgt Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys 100 105 110			336
tat ctt ctc tcc tca atg gcc tat gat cgc tat gca gcg atc tgc agt Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser 115 120 125			384
cct cta cac tac aca gtt att atg ccc aaa agg ctc tgc ctc gct ctc Pro Leu His Tyr Thr Val Ile Met Pro Lys Arg Leu Cys Leu Ala Leu 130 135 140			432
atc act ggg cct tat gtg att ggc ttt atg gac tcc ttt gtc aat gtg Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val 145 150 155 160			480
gtt tcc atg agc aga ttg cat ttc tgt gac tca aac ata att cat cac Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His 165 170 175			528
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gac aca Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr 180 185 190			576
gac aac act gaa atg ctg ata ttc att atc gct ggt tcc acc ctg atg Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met 195 200 205			624
gtg tcc ctt atc aca ata tct gca tcc tat gtg tcc att ctc tct acc Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr 210 215 220			672
atc ctg aaa att aat tcc act tca gga aag cag aaa gct ttc tct act Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr 225 230 235 240			720
tgc gtc tct cat ctc ttg gga gtc acc atc ttc tat gga act atg att Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile 245 250 255			768
ttt act tac tta aag cca aga aag tct tat tcc ttg gga aga gat caa Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln 260 265 270			816
gtg gct cct gtg ttt tat act att gtg att ccc atg ctg aat cca ctc Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu 275 280 285			864

att tat agt ctt aga aac aga gaa gtg aaa aat gct ctc att aga gtc 912  
 Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val  
 290 295 300

atg cag aga aga cag gac tcc agg tag 939  
 Met Gln Arg Arg Gln Asp Ser Arg  
 305 310

<210> 292  
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<400> 292

Met Met Gly Arg Arg Asn Asp Thr Asn Val Ala Asp Phe Ile Leu Thr  
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Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe  
 20 25 30

Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu  
 35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
 65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
 85 90 95

Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys  
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Pro Lys Arg Leu Cys Leu Ala Leu  
 130 135 140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val  
 145 150 155 160

Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His  
 165 170 175



Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
 180 185 190  
 Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met  
 195 200 205  
 Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr  
 210 215 220  
 Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile  
 245 250 255  
 Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln  
 260 265 270  
 Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val  
 290 295 300  
 Met Gln Arg Arg Gln Asp Ser Arg  
 305 310  
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 Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu  
 1 5 10 15  
 ctc aca agg cgg cct gag ctg cag att ccc ctt ttt gga gtc ttc ctc 96  
 Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu  
 20 25 30  
 gtc atc tac cta atc aca gtg gtg ggc aac cta act atg atc att ttg 144  
 Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu  
 35 40 45  
 acc aaa ctg gac tcc cac tta cat aca cct atg tac ttt tct atc aga 192

Thr	Lys	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Ser	Ile	Arg		
50						55					60						
cat	ttg	gct	tct	gtt	gat	ctt	ggt	aat	tct	act	gtc	att	tgt	ccc	aag	240	
His	Leu	Ala	Ser	Val	Asp	Leu	Gly	Asn	Ser	Thr	Val	Ile	Cys	Pro	Lys		
65					70				75						80		
gtg	ctg	gca	aat	ttt	gtt	gtg	gat	cga	aat	act	att	tcc	tat	tat	gca	288	
Val	Leu	Ala	Asn	Phe	Val	Val	Asp	Arg	Asn	Thr	Ile	Ser	Tyr	Tyr	Ala		
				85					90						95		
tgt	gct	gca	cag	ctg	gca	ttc	ttc	ctt	atg	ttc	att	atc	agt	gaa	ttt	336	
Cys	Ala	Ala	Gln	Leu	Ala	Phe	Phe	Leu	Met	Phe	Ile	Ile	Ser	Glu	Phe		
			100					105					110				
ttc	atc	ctg	tca	gcc	atg	gcc	tat	gac	cgc	tat	gtg	gcc	att	tgt	aac	384	
Phe	Ile	Leu	Ser	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
			115					120					125				
cct	ctg	ctc	tat	tat	gtt	att	atg	tct	cag	cga	ctg	tgt	cat	gta	ctg	432	
Pro	Leu	Leu	Tyr	Tyr	Val	Ile	Met	Ser	Gln	Arg	Leu	Cys	His	Val	Leu		
			130				135					140					
gtg	ggc	att	caa	tat	ctc	tac	agc	aca	ttt	cag	gct	ctg	atg	ttc	act	480	
Val	Gly	Ile	Gln	Tyr	Leu	Tyr	Ser	Thr	Phe	Gln	Ala	Leu	Met	Phe	Thr		
145					150					155					160		
att	aag	att	ttt	aca	ttg	acc	ttc	tgt	ggc	tct	aat	gtc	atc	agt	cat	528	
Ile	Lys	Ile	Phe	Thr	Leu	Thr	Phe	Cys	Gly	Ser	Asn	Val	Ile	Ser	His		
				165					170					175			
ttt	tac	tgt	gat	gat	gtt	cct	ttg	cta	cct	atg	ctt	tgc	tca	aat	gca	576	
Phe	Tyr	Cys	Asp	Asp	Val	Pro	Leu	Leu	Pro	Met	Leu	Cys	Ser	Asn	Ala		
			180					185					190				
cag	gaa	ata	gaa	ttg	ttg	agc	ata	cta	ttt	tct	gta	ttt	aat	ttg	atc	624	
Gln	Glu	Ile	Glu	Leu	Leu	Ser	Ile	Leu	Phe	Ser	Val	Phe	Asn	Leu	Ile		
			195				200					205					
tcc	tcc	ttt	ctg	ata	gtc	tta	gtg	tcc	tac	atg	ttg	att	ttg	tta	gct	672	
Ser	Ser	Phe	Leu	Ile	Val	Leu	Val	Ser	Tyr	Met	Leu	Ile	Leu	Leu	Ala		
			210				215					220					
ata	tgt	caa	atg	cat	tct	gca	gag	ggc	agg	aaa	aag	gct	ttc	tcc	aca	720	
Ile	Cys	Gln	Met	His	Ser	Ala	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr		
225					230					235					240		
tgt	ggt	tcc	cat	ttg	aca	gtg	gtg	gtt	gtg	ttc	tat	ggg	tct	cta	ctc	768	
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Val	Val	Phe	Tyr	Gly	Ser	Leu	Leu		
				245					250					255			
ttc	atg	tac	atg	cag	ccc	aat	tcc	act	cac	ttc	ttt	gat	act	gat	aaa	816	
Phe	Met	Tyr	Met	Gln	Pro	Asn	Ser	Thr	His	Phe	Phe	Asp	Thr	Asp	Lys		
			260					265					270				
atg	gct	tct	gtg	ttt	tac	act	tta	gta	atc	ccc	atg	ctt	aac	cct	ttg	864	
Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu		
			275				280						285				
att	tac	agc	tta	aga	aac	gaa	gag	gtg	aaa	aat	gcc	ttc	tat	aag	ctc	912	
Ile	Tyr	Ser	Leu	Arg	Asn	Glu	Glu	Val	Lys	Asn	Ala	Phe	Tyr	Lys	Leu		

290                                      295                                      300  
 ttt gag aat tga  
 Phe Glu Asn  
 305

<210> 294  
 <211> 307  
 <212> PRT  
 <213> Homo Sapiens

<400> 294

Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu  
 1                                      5                                      10                                      15

Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu  
                                     20                                      25                                      30

Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu  
                                     35                                      40                                      45

Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg  
                                     50                                      55                                      60

His Leu Ala Ser Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys  
 65                                      70                                      75                                      80

Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala  
                                     85                                      90                                      95

Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe  
                                     100                                      105                                      110

Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
                                     115                                      120                                      125

Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu  
                                     130                                      135                                      140

Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr  
 145                                      150                                      155                                      160

Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His  
                                     165                                      170                                      175

Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala  
                                     180                                      185                                      190

Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile  
 195 200 205

Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala  
 210 215 220

Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu  
 245 250 255

Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys  
 260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu  
 290 295 300

Phe Glu Asn  
 305

<210> 295  
 <211> 936  
 <212> DNA  
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<220>  
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 <222> (1) .. (933)  
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<400> 295  
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 Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu  
 1 5 10 15  
 gga ttc tca gat ttt ccc agg atc ata aaa gtg ctc ttc act ata ttc 96  
 Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile Phe  
 20 25 30  
 ctg gtg atc tac att aca tct ctg gcc tgg aac ctc tcc ctc att gtt 144  
 Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val  
 35 40 45  
 tta ata agg atg gat tcc cac ctc cat aca ccc atg tat ttc ttc ctc 192  
 Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

agt aac ctg tcc ttc ata gat gtc tgc tat atc agc tcc aca gtc ccc Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro 65 70 75 80	240
aag atg ctc tcc aac ctc tta cag gaa cag caa act atc act ttt gtt Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe Val 85 90 95	288
ggg tgt att att cag tac ttt atc ttt tca acg atg gga ctg agt gag Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu 100 105 110	336
tct tgt ctc atg aca gcc atg gct tat gat cgt tat gct gcc att tgt Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys 115 120 125	384
aac ccc ctg ctc tat tca tcc atc atg tca ccc acc ctc tgt gtt tgg Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp 130 135 140	432
atg gta ctg gga gcc tac atg act ggc ctc act gct tct tta ttc caa Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln 145 150 155 160	480
att ggt gct ttg ctt caa ctc cac ttc tgt ggg tct aat gtc atc aga Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg 165 170 175	528
cat ttc ttc tgt gac atg ccc caa ctg tta atc ttg tcc tgt act gac His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp 180 185 190	576
act ttc ttt gta cag gtc atg act gct ata tta acc atg ttc ttt ggg Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly 195 200 205	624
ata gca agt gcc cta gtt atc atg ata tcc tat ggc tat att ggc atc Ile Ala Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile 210 215 220	672
tcc atc atg aag atc act tca gct aaa ggc agg tcc aag gca ttc aac Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn 225 230 235 240	720
acc tgt gct tct cat cta aca gct gtt tcc ctc ttc tat aca tca gga Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly 245 250 255	768
atc ttt gtc tat ttg agt tcc agc tct gga ggt tct tca agc ttt gac Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp 260 265 270	816
aga ttt gca tct gtt ttc tac act gtg gtc att ccc atg tta aat ccc Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro 275 280 285	864
ttg att tac agt ttg agg aac aaa gaa att aaa gat gcc tta aag agg Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg 290 295 300	912
ttg caa aag aga aag tgc tgc tga	936

Leu Gln Lys Arg Lys Cys Cys  
305 310

<210> 296  
<211> 311  
<212> PRT  
<213> Homo Sapiens

<400> 296

Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu  
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Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile Phe  
20 25 30

Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val  
35 40 45

Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu  
50 55 60

Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro  
65 70 75 80

Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe Val  
85 90 95

Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu  
100 105 110

Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys  
115 120 125

Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp  
130 135 140

Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln  
145 150 155 160

Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg  
165 170 175

His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp  
180 185 190

Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly  
195 200 205

Ile Ala Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile  
 210 215 220

Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly  
 245 250 255

Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp  
 260 265 270

Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg  
 290 295 300

Leu Gln Lys Arg Lys Cys Cys  
 305 310

<210> 297  
 <211> 951  
 <212> DNA  
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<220>  
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<400> 297  
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 1 5 10 15  
 ggt gtt cag gag ctg cag cct ttc ttc ttt ggg att ttc tta atc att 96  
 Gly Val Gln Glu Leu Gln Pro Phe Phe Phe Gly Ile Phe Leu Ile Ile  
 20 25 30  
 tac ctg ata aac ttg att gga aat gga tct ata ttg gtg atg gtt gtt 144  
 Tyr Leu Ile Asn Leu Ile Gly Asn Gly Ser Ile Leu Val Met Val Val  
 35 40 45  
 ttg gaa cca caa ctc cac tcc cct atg tat ttt ttt ctg gga aac ctt 192  
 Leu Glu Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu Gly Asn Leu  
 50 55 60  
 tct tgt ctg gat att tct tat tct tca gtg aca ctg ccc aag ctg ctc 240  
 Ser Cys Leu Asp Ile Ser Tyr Ser Ser Val Thr Leu Pro Lys Leu Leu  
 65 70 75 80

gta aac ctc gtg tgc agt cgc agg gct ata tct ttt cta ggc tgt atc Val Asn Leu Val Cys Ser Arg Arg Ala Ile Ser Phe Leu Gly Cys Ile	288
85 .90 95	
acc cag cta cac ttc ttc cac ttt ttg gga agc aca gag gcc att tta Thr Gln Leu His Phe Phe His Phe Leu Gly Ser Thr Glu Ala Ile Leu	336
100 105 110	
ctg gct atc atg gcc ttt gac cgt ttt gtt gcc atc tgc aat cct ctt Leu Ala Ile Met Ala Phe Asp Arg Phe Val Ala Ile Cys Asn Pro Leu	384
115 120 125	
cgc tac act gtc atc atg aac ccc cag gtg tgt att ctg ttg gca gct Arg Tyr Thr Val Ile Met Asn Pro Gln Val Cys Ile Leu Leu Ala Ala	432
130 135 140	
gcg gcc tgg ctc atc agc ttc ttt tac gct ctg atg cat tct gtc atg Ala Ala Trp Leu Ile Ser Phe Phe Tyr Ala Leu Met His Ser Val Met	480
145 150 155 160	
act gca cac ctg agt ttt tgt ggc tct cag aaa ctc aat cac ttc ttc Thr Ala His Leu Ser Phe Cys Gly Ser Gln Lys Leu Asn His Phe Phe	528
165 170 175	
tac gat gtc aag ccg ctc tta gaa ttg gcc tgt agt gac aca tta ctc Tyr Asp Val Lys Pro Leu Leu Glu Leu Ala Cys Ser Asp Thr Leu Leu	576
180 185 190	
aat caa tgg ctt ctt tcc att gtc aca ggc agc ata tcc atg gga gct Asn Gln Trp Leu Leu Ser Ile Val Thr Gly Ser Ile Ser Met Gly Ala	624
195 200 205	
ttc ttt ctg act ctt ctc tcc tgc ttc tat gta att ggc ttc ctt ctg Phe Phe Leu Thr Leu Leu Ser Cys Phe Tyr Val Ile Gly Phe Leu Leu	672
210 215 220	
ttt aag aac agg tcc tgc aga ata ctc cac aag gct ctg tcc act tgt Phe Lys Asn Arg Ser Cys Arg Ile Leu His Lys Ala Leu Ser Thr Cys	720
225 230 235 240	
gcc tcc cat ttt atg gtg gta tgt ctt ttc tat gga cct gtg ggc ttc Ala Ser His Phe Met Val Val Cys Leu Phe Tyr Gly Pro Val Gly Phe	768
245 250 255	
aca tat att cgt cct gct tca gcc acc tcc atg att cag gac cgg ata Thr Tyr Ile Arg Pro Ala Ser Ala Thr Ser Met Ile Gln Asp Arg Ile	816
260 265 270	
atg gcc atc atg tat agc gcc gtc acc cct gta ctg aat cca cta atc Met Ala Ile Met Tyr Ser Ala Val Thr Pro Val Leu Asn Pro Leu Ile	864
275 280 285	
tac acc ctt agg aac aaa gaa gtg atg atg gct ctg aag aaa atc ttt Tyr Thr Leu Arg Asn Lys Glu Val Met Met Ala Leu Lys Lys Ile Phe	912
290 295 300	
ggg agg aag ttg ttt aaa gac tgg cag caa cac cac tag Gly Arg Lys Leu Phe Lys Asp Trp Gln Gln His His	951
305 310 315	



<210> 298  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 298

Met Glu Asn Val Thr Thr Met Asn Glu Phe Leu Leu Leu Gly Leu Thr  
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Gly Val Gln Glu Leu Gln Pro Phe Phe Phe Gly Ile Phe Leu Ile Ile  
 20 25 30

Tyr Leu Ile Asn Leu Ile Gly Asn Gly Ser Ile Leu Val Met Val Val  
 35 40 45

Leu Glu Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu Gly Asn Leu  
 50 55 60

Ser Cys Leu Asp Ile Ser Tyr Ser Ser Val Thr Leu Pro Lys Leu Leu  
 65 70 75 80

Val Asn Leu Val Cys Ser Arg Arg Ala Ile Ser Phe Leu Gly Cys Ile  
 85 90 95

Thr Gln Leu His Phe Phe His Phe Leu Gly Ser Thr Glu Ala Ile Leu  
 100 105 110

Leu Ala Ile Met Ala Phe Asp Arg Phe Val Ala Ile Cys Asn Pro Leu  
 115 120 125

Arg Tyr Thr Val Ile Met Asn Pro Gln Val Cys Ile Leu Leu Ala Ala  
 130 135 140

Ala Ala Trp Leu Ile Ser Phe Phe Tyr Ala Leu Met His Ser Val Met  
 145 150 155 160

Thr Ala His Leu Ser Phe Cys Gly Ser Gln Lys Leu Asn His Phe Phe  
 165 170 175

Tyr Asp Val Lys Pro Leu Leu Glu Leu Ala Cys Ser Asp Thr Leu Leu  
 180 185 190

Asn Gln Trp Leu Leu Ser Ile Val Thr Gly Ser Ile Ser Met Gly Ala  
 195 200 205

Phe Phe Leu Thr Leu Leu Ser Cys Phe Tyr Val Ile Gly Phe Leu Leu

210                      215                      220  
 Phe Lys Asn Arg Ser Cys Arg Ile Leu His Lys Ala Leu Ser Thr Cys  
 225                      230                      235                      240  
 Ala Ser His Phe Met Val Val Cys Leu Phe Tyr Gly Pro Val Gly Phe  
                     245                      250                      255  
 Thr Tyr Ile Arg Pro Ala Ser Ala Thr Ser Met Ile Gln Asp Arg Ile  
                     260                      265                      270  
 Met Ala Ile Met Tyr Ser Ala Val Thr Pro Val Leu Asn Pro Leu Ile  
                     275                      280                      285  
 Tyr Thr Leu Arg Asn Lys Glu Val Met Met Ala Leu Lys Lys Ile Phe  
                     290                      295                      300  
 Gly Arg Lys Leu Phe Lys Asp Trp Gln Gln His His  
 305                      310                      315

<210> 299  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(948)  
 <223>

<400> 299  
 atg gag gct gcc aat gag tct tca gag gga atc tca ttc gtt tta ttg 48  
 Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu  
 1                      5                      10                      15  
 gga ctg aca aca agt cct gga cag cag cgg cct ctc ttt gtg ctg ttc 96  
 Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe  
                     20                      25                      30  
 ttg ctc ttg tat gtg gcc agc ctc ctg ggt aat gga ctc att gtg gct 144  
 Leu Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala  
                     35                      40                      45  
 gcc atc cag gcc agt cca gcc ctt cat gca ccc atg tac ttc ctg ctg 192  
 Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu  
                     50                      55                      60  
 gcc cac ctg tcc ttt gct gac ctc tgt ttc gcc tcc gtc act gtg ccc 240  
 Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro  
 65                      70                      75                      80  
 aag atg ttg gcc aac ttg ttg gcc cat gac cac tcc atc tcg ctg gct 288  
 Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala

85	90	95	
ggc tgc ctg acc caa atg tac ttc ttc ttt gcc ctg ggg gta act gat Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp 100 105 110			336
agc tgt ctt ctg gcg gcc atg gcc tat gac tgc tac gtg gcc atc cgg Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg 115 120 125			384
cac ccc ctc ccc tat gcc acg agg atg tcc cgg gcc atg tgc gca gcc His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala 130 135 140			432
ctg gtg gga atg gca tgg ctg gtg tcc cac gtc cac tcc ctc ctg tat Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr 145 150 155 160			480
atc ctg ctc atg gct cgc ttg tcc ttc tgt gct tcc cac caa gtg ccc Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro 165 170 175			528
cac ttc ttc tgt gac cac cag cct ctc tta agg ctc tcg tgc tct gac His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp 180 185 190			576
acc cac cac atc cag ctg ctc atc ttc acc gag ggc gcc gca gtg gtg Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val 195 200 205			624
gtc act ccc ttc ctg ctc atc ctc gcc tcc tat ggg gcc atc gca gct Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala 210 215 220			672
gcc gtg ctc cag ctg ccc tca gcc tct ggg agg ctc cgg gct gtg tcc Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser 225 230 235 240			720
acc tgt ggc tcc cac ctg gct gtg gtg agc ctc ttc tat ggg aca gtc Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val 245 250 255			768
att gca gtc tac ttc cag gcc aca tcc cga cgc gag gca gag tgg ggc Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly 260 265 270			816
cgt gtg gcc act gtc atg tac act gta gtc acc ccc atg ctg aac ccc Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro 275 280 285			864
atc atc tac agc ctc tgg aat cgc gat gta cag ggg gca ctc cga gcc Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala 290 295 300			912
ctt ctc att ggg cga agg atc tca gct agt gac tcc tga Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser 305 310 315			951

&lt;210&gt; 300

&lt;211&gt; 316

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 300

Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu  
 1 5 10 15

Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe  
 20 25 30

Leu Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala  
 35 40 45

Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu  
 50 55 60

Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro  
 65 70 75 80

Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala  
 85 90 95

Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp  
 100 105 110

Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg  
 115 120 125

His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala  
 130 135 140

Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr  
 145 150 155 160

Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro  
 165 170 175

His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp  
 180 185 190

Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val  
 195 200 205

Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala  
 210 215 220

Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser  
 225 230 235 240

Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val  
 245 250 255

Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly  
 260 265 270

Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro  
 275 280 285

Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala  
 290 295 300

Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser  
 305 310 315

<210> 301  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (939)  
 <223>

<400> 301  
 atg gag caa gtc aat aag act gtg gtg aga gag ttc gtc gtc ctc ggc 48  
 Met Glu Gln Val Asn Lys Thr Val Val Arg Glu Phe Val Val Leu Gly  
 1 5 10 15  
 ttc tca tcc ctg gcc agg ctg cag cag ctg ctc ttt gtt atc ttc ctg 96  
 Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
 20 25 30  
 ctc ctc tac ctg ttc act ctg ggc acc aat gca atc atc att tcc acc 144  
 Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
 35 40 45  
 att gtg ctg gac aga gcc ctt cat act ccc atg tac ttc ttc ctt gcc 192  
 Ile Val Leu Asp Arg Ala Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60  
 atc ctt tct tgc tct gag att tgc tat acc ttt gtc att gta ccc aag 240  
 Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Val Ile Val Pro Lys  
 65 70 75 80  
 atg ctg gtt gac ctg ctg tcc cag aag aag acc att tct ttc ctg ggc 288  
 Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
 85 90 95  
 tgt gcc atc caa atg ttt tcc ttc ctc ttc ttt ggc tcc tct cac tcc 336

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Phe Gly Ser Ser His Ser  
 100 105 110  
 ttc ctg ctg gca gcc atg ggc tat gat cgc tat atg gcc atc tgt aac 384  
 Phe Leu Leu Ala Ala Met Gly Tyr Asp Arg Tyr Met Ala Ile Cys Asn  
 115 120 125  
 cca ctg cgc tac tca gtg ctc atg gga cat ggg gtg tgt atg gga cta 432  
 Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu  
 130 135 140  
 atg gct gct gcc tgt gcc tgt ggc ttc act gtc tcc ctg gtc acc acc 480  
 Met Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ser Leu Val Thr Thr  
 145 150 155 160  
 tcc cta gta ttt cat ctg ccc ttc cac tcc tcc aac cag ctc cat cac 528  
 Ser Leu Val Phe His Leu Pro Phe His Ser Ser Asn Gln Leu His His  
 165 170 175  
 ttc ttc tgt gac atc tcc cct gtc ctt aaa ctg gca tct cag cac tcc 576  
 Phe Phe Cys Asp Ile Ser Pro Val Leu Lys Leu Ala Ser Gln His Ser  
 180 185 190  
 ggc ttc agt cag ctg gtc ata ttc atg ctt ggt gta ttt gcc ttg gtc 624  
 Gly Phe Ser Gln Leu Val Ile Phe Met Leu Gly Val Phe Ala Leu Val  
 195 200 205  
 att cct ctg cta ctt atc cta gtc tcc tac atc cgc atc atc tct gcc 672  
 Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Ile Arg Ile Ile Ser Ala  
 210 215 220  
 att cta aaa atc cct tcc tcc gtt gga aga tac aag acc ttc tcc acc 720  
 Ile Leu Lys Ile Pro Ser Ser Val Gly Arg Tyr Lys Thr Phe Ser Thr  
 225 230 235 240  
 tgt gcc tcc cat ctc att gtg gta act gtt cac tac agt tgt gcc tct 768  
 Cys Ala Ser His Leu Ile Val Val Thr Val His Tyr Ser Cys Ala Ser  
 245 250 255  
 ttc atc tac tta agg ccc aag act aat tac act tca agc caa gac acc 816  
 Phe Ile Tyr Leu Arg Pro Lys Thr Asn Tyr Thr Ser Ser Gln Asp Thr  
 260 265 270  
 cta ata tct gtg tca tac acc atc ctt acc cca ttg ttc aat cca atg 864  
 Leu Ile Ser Val Ser Tyr Thr Ile Leu Thr Pro Leu Phe Asn Pro Met  
 275 280 285  
 att tat agt ctg aga aat aag gaa ttc aaa tca gcc cta cga aga aca 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Arg Arg Thr  
 290 295 300  
 atc ggc caa act ttc tat cct ctt agt taa 942  
 Ile Gly Gln Thr Phe Tyr Pro Leu Ser  
 305 310

<210> 302  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 302

Met Glu Gln Val Asn Lys Thr Val Val Arg Glu Phe Val Val Leu Gly  
 1 5 10 15

Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
 20 25 30

Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
 35 40 45

Ile Val Leu Asp Arg Ala Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Val Ile Val Pro Lys  
 65 70 75 80

Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
 85 90 95

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Phe Gly Ser Ser His Ser  
 100 105 110

Phe Leu Leu Ala Ala Met Gly Tyr Asp Arg Tyr Met Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu  
 130 135 140

Met Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ser Leu Val Thr Thr  
 145 150 155 160

Ser Leu Val Phe His Leu Pro Phe His Ser Ser Asn Gln Leu His His  
 165 170 175

Phe Phe Cys Asp Ile Ser Pro Val Leu Lys Leu Ala Ser Gln His Ser  
 180 185 190

Gly Phe Ser Gln Leu Val Ile Phe Met Leu Gly Val Phe Ala Leu Val  
 195 200 205

Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Ile Arg Ile Ile Ser Ala  
 210 215 220

Ile Leu Lys Ile Pro Ser Ser Val Gly Arg Tyr Lys Thr Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Ile Val Val Thr Val His Tyr Ser Cys Ala Ser  
 245 250 255

Phe Ile Tyr Leu Arg Pro Lys Thr Asn Tyr Thr Ser Ser Gln Asp Thr  
 260 265 270

Leu Ile Ser Val Ser Tyr Thr Ile Leu Thr Pro Leu Phe Asn Pro Met  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Arg Arg Thr  
 290 295 300

Ile Gly Gln Thr Phe Tyr Pro Leu Ser  
 305 310

<210> 303  
 <211> 954  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(951)  
 <223>

<400> 303  
 atg aga aat ttg agt gga ggc cat gtc gag gag ttt gtc ttg gtg ggt 48  
 Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly  
 1 5 10 15  
 ttc cct acc acg cct ccc ctc cag ctg ctc ctc ttt gtc ctt ttt ttt 96  
 Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe  
 20 25 30  
 gca att tac ctt ctg aca ttg ttg gag aat gca ctt att gtc ttc aca 144  
 Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr  
 35 40 45  
 ata tgg ctt gct cca agc ctt cat cgt ccc atg tac ttt ttc ctt ggc 192  
 Ile Trp Leu Ala Pro Ser Leu His Arg Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 cat ctc tct ttc ctg gag cta tgg tac atc aat gtc acc att cct cgg 240  
 His Leu Ser Phe Leu Glu Leu Trp Tyr Ile Asn Val Thr Ile Pro Arg  
 65 70 75 80  
 ctc ttg gca gcc ttt ctt acc cag gat ggt aga gtc tcc tac gta ggt 288  
 Leu Leu Ala Ala Phe Leu Thr Gln Asp Gly Arg Val Ser Tyr Val Gly  
 85 90 95  
 tgc atg acc caa ctg tac ttc ttt att gcc tta gcc tgt act gaa tgt 336  
 Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Leu Ala Cys Thr Glu Cys  
 100 105 110



gtg ctg ttg gca gtt atg gcc tat gat cgc tac ctg gcc atc tgt gga 384  
Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gly  
115 120 125

ccc ctc ctt tac cct agt ctc atg cct tcc agt ctg gcc act cgc ctt 432  
Pro Leu Leu Tyr Pro Ser Leu Met Pro Ser Ser Leu Ala Thr Arg Leu  
130 135 140

gct gct gcc tct tgg ggc agt ggc ttc ttc agc tcc atg atg aag ctt 480  
Ala Ala Ala Ser Trp Gly Ser Gly Phe Phe Ser Ser Met Met Lys Leu  
145 150 155 160

ctt ttt att tcc caa ttg tcc tac tgt gga ccc aac att atc aac cac 528  
Leu Phe Ile Ser Gln Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His  
165 170 175

ttt ttc tgt gat att tcc cca cta ctc aac ctc acc tgc tct gac aag 576  
Phe Phe Cys Asp Ile Ser Pro Leu Leu Asn Leu Thr Cys Ser Asp Lys  
180 185 190

gag caa gca gag cta gta gac ttc ctt ctg gcc ctg gtg atg att cta 624  
Glu Gln Ala Glu Leu Val Asp Phe Leu Leu Ala Leu Val Met Ile Leu  
195 200 205

ctc cct cta ttg gct gtg gtt tca tca tac act gcc atc att gca gcc 672  
Leu Pro Leu Leu Ala Val Val Ser Ser Tyr Thr Ala Ile Ile Ala Ala  
210 215 220

atc ctg agg atc cct acg tcc agg gga cgc cac aaa gcc ttt tcc act 720  
Ile Leu Arg Ile Pro Thr Ser Arg Gly Arg His Lys Ala Phe Ser Thr  
225 230 235 240

tgt gcc gct cat ctg gca gtg gtt gtt atc tac tac tcc tcc act ctc 768  
Cys Ala Ala His Leu Ala Val Val Val Ile Tyr Tyr Ser Ser Thr Leu  
245 250 255

ttc acc tat gca cgg ccc cgg gcc atg tac acc ttc aac cac aac aag 816  
Phe Thr Tyr Ala Arg Pro Arg Ala Met Tyr Thr Phe Asn His Asn Lys  
260 265 270

att atc tct gtg ctc tac act atc att gta cca ttc ttc aac cca gcc 864  
Ile Ile Ser Val Leu Tyr Thr Ile Ile Val Pro Phe Phe Asn Pro Ala  
275 280 285

atc tac tgc ctg agg aac aag gag gtg aag gag gcc ttc agg aag aca 912  
Ile Tyr Cys Leu Arg Asn Lys Glu Val Lys Glu Ala Phe Arg Lys Thr  
290 295 300

gtg atg ggc aga tgt cac tat cct agg gat gtt cag gac tga 954  
Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp  
305 310 315

<210> 304  
<211> 317  
<212> PRT  
<213> Homo Sapiens

<400> 304

Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly

1	5	10	15
Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe	20	25	30
Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr	35	40	45
Ile Trp Leu Ala Pro Ser Leu His Arg Pro Met Tyr Phe Phe Leu Gly	50	55	60
His Leu Ser Phe Leu Glu Leu Trp Tyr Ile Asn Val Thr Ile Pro Arg	65	70	75
Leu Leu Ala Ala Phe Leu Thr Gln Asp Gly Arg Val Ser Tyr Val Gly	85	90	95
Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Leu Ala Cys Thr Glu Cys	100	105	110
Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gly	115	120	125
Pro Leu Leu Tyr Pro Ser Leu Met Pro Ser Ser Leu Ala Thr Arg Leu	130	135	140
Ala Ala Ala Ser Trp Gly Ser Gly Phe Phe Ser Ser Met Met Lys Leu	145	150	155
Leu Phe Ile Ser Gln Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His	165	170	175
Phe Phe Cys Asp Ile Ser Pro Leu Leu Asn Leu Thr Cys Ser Asp Lys	180	185	190
Glu Gln Ala Glu Leu Val Asp Phe Leu Leu Ala Leu Val Met Ile Leu	195	200	205
Leu Pro Leu Leu Ala Val Val Ser Ser Tyr Thr Ala Ile Ile Ala Ala	210	215	220
Ile Leu Arg Ile Pro Thr Ser Arg Gly Arg His Lys Ala Phe Ser Thr	225	230	235
Cys Ala Ala His Leu Ala Val Val Val Ile Tyr Tyr Ser Ser Thr Leu	245	250	255

Phe Thr Tyr Ala Arg Pro Arg Ala Met Tyr Thr Phe Asn His Asn Lys  
 260 265 270

Ile Ile Ser Val Leu Tyr Thr Ile Ile Val Pro Phe Phe Asn Pro Ala  
 275 280 285

Ile Tyr Cys Leu Arg Asn Lys Glu Val Lys Glu Ala Phe Arg Lys Thr  
 290 295 300

Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp  
 305 310 315

<210> 305  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

<400> 305

atg aag atc aac cag aca atc ctg aag gaa ttc att ctt gtt ggc ttt 48  
 Met Lys Ile Asn Gln Thr Ile Leu Lys Glu Phe Ile Leu Val Gly Phe  
 1 5 10 15

tct gtg tac cca cat gta cag aca ttt ctt ttt gtg gtc ttc ttt tgt 96  
 Ser Val Tyr Pro His Val Gln Thr Phe Leu Phe Val Val Phe Phe Cys  
 20 25 30

ctc tac ctt ctc acc ctt gca ggt aat ctg atc atc atg ggt cta act 144  
 Leu Tyr Leu Leu Thr Leu Ala Gly Asn Leu Ile Ile Met Gly Leu Thr  
 35 40 45

tgg gtg gac agg tcc ctc cac acc cct atg tat ctc ttc ctt agt gca 192  
 Trp Val Asp Arg Ser Leu His Thr Pro Met Tyr Leu Phe Leu Ser Ala  
 50 55 60

ctc tcc ttc tct gag acc tgc tat acg ctg acc atc gtc ccc aag atg 240  
 Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Thr Ile Val Pro Lys Met  
 65 70 75 80

ctg gaa gat cta ctg gcc aag gac aga agc att tca gtc aca ggt tgt 288  
 Leu Glu Asp Leu Leu Ala Lys Asp Arg Ser Ile Ser Val Thr Gly Cys  
 85 90 95

agc tta cag atg tgc ttc ttc ttg gga ctt ggt ggc aca aac tgt atc 336  
 Ser Leu Gln Met Cys Phe Phe Leu Gly Leu Gly Gly Thr Asn Cys Ile  
 100 105 110

att ctc act ttg atg gga tat gac cgc ttc ctg gcc atc tgt aac cct 384  
 Ile Leu Thr Leu Met Gly Tyr Asp Arg Phe Leu Ala Ile Cys Asn Pro  
 115 120 125

cta aga tat cca ctg ctt atg acc aac att gta tgt gga caa ctt gtg 432  
 Leu Arg Tyr Pro Leu Leu Met Thr Asn Ile Val Cys Gly Gln Leu Val  
 130 135 140

gcc tct gct tgc act gca ggc ttc ttt atc tct ctt aca gag act gca 480  
 Ala Ser Ala Cys Thr Ala Gly Phe Phe Ile Ser Leu Thr Glu Thr Ala  
 145 150 155 160

ctg ata ttc agg gac tct ttc tgc aga ccc aac ctt gtc aaa cac ttc 528  
 Leu Ile Phe Arg Asp Ser Phe Cys Arg Pro Asn Leu Val Lys His Phe  
 165 170 175

ttc tgc cat atg ctg gca gtt att agg ctg tct tgt ata gac agt aac 576  
 Phe Cys His Met Leu Ala Val Ile Arg Leu Ser Cys Ile Asp Ser Asn  
 180 185 190

cac aca gaa ttc att ata aca ctg atc tca gtg tct ggt ttg ctg ggt 624  
 His Thr Glu Phe Ile Ile Thr Leu Ile Ser Val Ser Gly Leu Leu Gly  
 195 200 205

acc ctt ctg ctc atc atc ctg act gat gtc ttc att att tct act gtc 672  
 Thr Leu Leu Leu Ile Ile Leu Thr Asp Val Phe Ile Ile Ser Thr Val  
 210 215 220

ctc agg atc cct tca gct gag ggc aag cag aag gcc ttc acc acc tgt 720  
 Leu Arg Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Thr Thr Cys  
 225 230 235 240

gcc tcc cac ctc acc gtg gtt ata atc cac ttt ggt ttt gca tct att 768  
 Ala Ser His Leu Thr Val Val Ile Ile His Phe Gly Phe Ala Ser Ile  
 245 250 255

gtt tat ttg aag cca gaa gcc tca gga gat gac aca ctc ata gca gtc 816  
 Val Tyr Leu Lys Pro Glu Ala Ser Gly Asp Asp Thr Leu Ile Ala Val  
 260 265 270

cct tat act gtc att acc ccc ttc ctc agc ccc atc ata ttc agc ctg 864  
 Pro Tyr Thr Val Ile Thr Pro Phe Leu Ser Pro Ile Ile Phe Ser Leu  
 275 280 285

agg aat aag gac atg aaa aat gct ttt aga aga atg atg gga aac aca 912  
 Arg Asn Lys Asp Met Lys Asn Ala Phe Arg Arg Met Met Gly Asn Thr  
 290 295 300

gtt gcc ttg aaa aaa taa 930  
 Val Ala Leu Lys Lys  
 305

<210> 306  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 306

Met Lys Ile Asn Gln Thr Ile Leu Lys Glu Phe Ile Leu Val Gly Phe  
 1 5 10 15

Ser Val Tyr Pro His Val Gln Thr Phe Leu Phe Val Val Phe Phe Cys  
 20 25 30  
 Leu Tyr Leu Leu Thr Leu Ala Gly Asn Leu Ile Ile Met Gly Leu Thr  
 35 40 45  
 Trp Val Asp Arg Ser Leu His Thr Pro Met Tyr Leu Phe Leu Ser Ala  
 50 55 60  
 Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Thr Ile Val Pro Lys Met  
 65 70 75 80  
 Leu Glu Asp Leu Leu Ala Lys Asp Arg Ser Ile Ser Val Thr Gly Cys  
 85 90 95  
 Ser Leu Gln Met Cys Phe Phe Leu Gly Leu Gly Gly Thr Asn Cys Ile  
 100 105 110  
 Ile Leu Thr Leu Met Gly Tyr Asp Arg Phe Leu Ala Ile Cys Asn Pro  
 115 120 125  
 Leu Arg Tyr Pro Leu Leu Met Thr Asn Ile Val Cys Gly Gln Leu Val  
 130 135 140  
 Ala Ser Ala Cys Thr Ala Gly Phe Phe Ile Ser Leu Thr Glu Thr Ala  
 145 150 155 160  
 Leu Ile Phe Arg Asp Ser Phe Cys Arg Pro Asn Leu Val Lys His Phe  
 165 170 175  
 Phe Cys His Met Leu Ala Val Ile Arg Leu Ser Cys Ile Asp Ser Asn  
 180 185 190  
 His Thr Glu Phe Ile Ile Thr Leu Ile Ser Val Ser Gly Leu Leu Gly  
 195 200 205  
 Thr Leu Leu Leu Ile Ile Leu Thr Asp Val Phe Ile Ile Ser Thr Val  
 210 215 220  
 Leu Arg Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Thr Thr Cys  
 225 230 235 240  
 Ala Ser His Leu Thr Val Val Ile Ile His Phe Gly Phe Ala Ser Ile  
 245 250 255  
 Val Tyr Leu Lys Pro Glu Ala Ser Gly Asp Asp Thr Leu Ile Ala Val

260	265	270	
Pro Tyr Thr Val Ile Thr Pro Phe Leu Ser Pro Ile Ile Phe Ser Leu			
275	280	285	
Arg Asn Lys Asp Met Lys Asn Ala Phe Arg Arg Met Met Gly Asn Thr			
290	295	300	
Val Ala Leu Lys Lys			
305			
<210>	307		
<211>	969		
<212>	DNA		
<213>	Homo Sapiens		
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<222>	(1) .. (963)		
<223>			
<400>	307		
atg gag ccc caa aat acc tcc act gtg act aac ttt cag ctg tta gga			48
Met Glu Pro Gln Asn Thr Ser Thr Val Thr Asn Phe Gln Leu Leu Gly			
1 5 10 15			
ttc cag aac ctt ctt gaa tgg cag gcc ctg ctc ttt gtc att ttc ctg			96
Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu			
20 25 30			
ctc atc tac tgc ctg acc att ata ggg aat gtt gtc atc atc acc gtg			144
Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val			
35 40 45			
gtg agc cag ggc ctg cga ctg cac tcc cct atg tac atg ttc ctc cag			192
Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln			
50 55 60			
cat ctc tcc ttt ctg gag gtc tgg tac acg tcc acc act gtg ccc ctt			240
His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu			
65 70 75 80			
ctc cta gcc aac ctg ctg tcc tgg ggc caa gcc atc tcc ttc tct gcc			288
Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala			
85 90 95			
tgc atg gca cag ctc tac ttc ttc gta ttc ctc ggc gcc acc gag tgc			336
Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys			
100 105 110			
ttt ctc ctg gcc ttc atg gcc tat gac cgt tac ctg gcc atc tgc agc			384
Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser			
115 120 125			
cca ctc cgc tac ccc ttt ctc atg cat cgt ggg cta tgt gcc agg ttg			432
Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu			

130	135	140	
gtg gtg gtc tca tgg tgc aca ggg gtc agc aca ggc ttt ctg cat tcc			480
Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser			
145	150	155	160
atg atg att tcc agg ttg gac ttc tgt ggg cgc aat cag att aac cat			528
Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His			
	165	170	175
ttc ttc tgc gac ctc ccg cca ctc atg cag ctc tcc tgt tcc aga gtt			576
Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val			
	180	185	190
tat atc acc gag gtg acc atc ttc atc ctg tca att gcc gtg ctg tgc			624
Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys			
	195	200	205
att tgt ttt ttt ctg aca ctg ggg ccc tat gtt ttc att gtg tcc tcc			672
Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser			
	210	215	220
ata ttg aga atc cct tcc acc tct ggc cgg aga aag acc ttt tcc aca			720
Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr			
	225	230	235
tgt ggc tcc cac ctg gct gtt gtc act ctc tac tac ggg acc atg atc			768
Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile			
	245	250	255
tcc atg tat gtg tgt ccc agt ccc cac ctg ttg cct gaa atc aac aag			816
Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys			
	260	265	270
atc att tct gtc ttc tac act gtg gtc aca cca ctg ctg aac cca gtt			864
Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val			
	275	280	285
atc tac agc ttg agg aac aaa gac ttc aaa gaa gct gtt aga aag gtc			912
Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val			
	290	295	300
atg aga agg aaa tgt ggt att cta tgg agt aca agt aaa agg aag ttc			960
Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe			
	305	310	315
ctt tattag			969
Leu			

<210> 308  
 <211> 321  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 308

Met Glu Pro Gln Asn Thr Ser Thr Val Thr Asn Phe Gln Leu Leu Gly  
 1 5 10 15

Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu  
20 25 30

Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val  
35 40 45

Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln  
50 55 60

His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu  
65 70 75 80

Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala  
85 90 95

Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys  
100 105 110

Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser  
115 120 125

Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu  
130 135 140

Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser  
145 150 155 160

Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His  
165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val  
180 185 190

Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys  
195 200 205

Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser  
210 215 220

Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr  
225 230 235 240

Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile  
245 250 255



Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys  
 260 265 270

Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val  
 290 295 300

Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe  
 305 310 315 320

Leu

<210> 309  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (936)  
 <223>

<400> 309  
 atg gaa aat tac aat caa aca tca act gat ttc atc tta ttg ggg ctg 48  
 Met Glu Asn Tyr Asn Gln Thr Ser Thr Asp Phe Ile Leu Leu Gly Leu  
 1 5 10 15  
 ttt cca cca tca ata att gac ctt ttc ttc ttc att ctc att gtt ttc 96  
 Phe Pro Pro Ser Ile Ile Asp Leu Phe Phe Phe Ile Leu Ile Val Phe  
 20 25 30  
 att ttc ctg atg gct cta att gga aac ctg tcc atg att ctt ctc atc 144  
 Ile Phe Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile  
 35 40 45  
 ttc ttg gac acc cat ctc cac aca ccc atg tat ttc cta ctg agt cag 192  
 Phe Leu Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln  
 50 55 60  
 ctc tcc ctc att gac cta aat tac atc tcc acc att gtt cct aag atg 240  
 Leu Ser Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met  
 65 70 75 80  
 gca tct gat ttt ctg cat gga aac aag tct atc tcc ttc act ggg tgt 288  
 Ala Ser Asp Phe Leu His Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys  
 85 90 95  
 ggg att cag agt ttc ttc ttc ttg gca tta gga ggt gca gaa gca cta 336  
 Gly Ile Gln Ser Phe Phe Phe Leu Ala Leu Gly Gly Ala Glu Ala Leu  
 100 105 110  
 ctt ttg gca tct atg gcc tat gat cgt tac att gct att tgc ttt cct 384

Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro  
 115 120 125  
 ctc cac tat ctc atc cgc atg agc aaa aga gtg tgt gtg ctg atg ata 432  
 Leu His Tyr Leu Ile Arg Met Ser Lys Arg Val Cys Val Leu Met Ile  
 130 135 140  
 aca ggg tct tgg atc ata ggc tgc atc aat gct tgt gct cac act gta 480  
 Thr Gly Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val  
 145 150 155 160  
 tat gta ctc cat att cct tat tgc cga tcc agg gcc atc aat cat ttc 528  
 Tyr Val Leu His Ile Pro Tyr Cys Arg Ser Arg Ala Ile Asn His Phe  
 165 170 175  
 ttc tgt gat gtc cca gca atg gtg act ctg gcc tgc atg gac acc tgg 576  
 Phe Cys Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp  
 180 185 190  
 gtc tat gag ggc aca gtg ttt ttg agt gcc acc atc ttt ctc gtg ttt 624  
 Val Tyr Glu Gly Thr Val Phe Leu Ser Ala Thr Ile Phe Leu Val Phe  
 195 200 205  
 ccc ttc att ggt att tca tgt tcc tat ggc cag gtt ctc ttt gct gtc 672  
 Pro Phe Ile Gly Ile Ser Cys Ser Tyr Gly Gln Val Leu Phe Ala Val  
 210 215 220  
 tac cac atg aaa tct gca gaa ggg agg aag aaa gcc tat ttg acc tgc 720  
 Tyr His Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys  
 225 230 235 240  
 agc acc cac ctc act gta gta act ttc tac tat gca cct ttt gtc tac 768  
 Ser Thr His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr  
 245 250 255  
 act tat cta cgt cca aga tcc ctg cga tct cca aca gag gac aag gtt 816  
 Thr Tyr Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val  
 260 265 270  
 ctg gct gtc ttc tac acc atc ctc acc cca atg ctc aac ccc atc atc 864  
 Leu Ala Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile  
 275 280 285  
 tat agc ctg agg aac aag gag gtg atg ggg gcc ctg aca cga gtg agt 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser  
 290 295 300  
 cag aga atc tgc tct gtg aaa atg tag 939  
 Gln Arg Ile Cys Ser Val Lys Met  
 305 310

<210> 310  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 310

Met Glu Asn Tyr Asn Gln Thr Ser Thr Asp Phe Ile Leu Leu Gly Leu  
 1 5 10 15

Phe Pro Pro Ser Ile Ile Asp Leu Phe Phe Phe Ile Leu Ile Val Phe  
                   20                  25                  30

Ile Phe Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile  
           35                  40                  45

Phe Leu Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln  
       50                  55                  60

Leu Ser Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met  
   65                  70                  75                  80

Ala Ser Asp Phe Leu His Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys  
                   85                  90                  95

Gly Ile Gln Ser Phe Phe Phe Leu Ala Leu Gly Gly Ala Glu Ala Leu  
           100                  105                  110

Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro  
       115                  120                  125

Leu His Tyr Leu Ile Arg Met Ser Lys Arg Val Cys Val Leu Met Ile  
       130                  135                  140

Thr Gly Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val  
   145                  150                  155                  160

Tyr Val Leu His Ile Pro Tyr Cys Arg Ser Arg Ala Ile Asn His Phe  
           165                  170                  175

Phe Cys Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp  
           180                  185                  190

Val Tyr Glu Gly Thr Val Phe Leu Ser Ala Thr Ile Phe Leu Val Phe  
       195                  200                  205

Pro Phe Ile Gly Ile Ser Cys Ser Tyr Gly Gln Val Leu Phe Ala Val  
       210                  215                  220

Tyr His Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys  
   225                  230                  235                  240

Ser Thr His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr  
           245                  250                  255

Thr Tyr Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val  
 260 265 270

Leu Ala Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser  
 290 295 300

Gln Arg Ile Cys Ser Val Lys Met  
 305 310

<210> 311  
 <211> 870  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (867)  
 <223>

<400> 311  
 atg gaa aat ggg agc tat acc tct tat ttc att ctc cta gga ctc ttt 48  
 Met Glu Asn Gly Ser Tyr Thr Ser Tyr Phe Ile Leu Leu Gly Leu Phe  
 1 5 10 15  
 aac cac acc aga gcc cac caa gtc ctc ttc atg atg gtt ctg agt atc 96  
 Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Val Leu Ser Ile  
 20 25 30  
 gtt ttg acc tcc ctg ttt ggc aat tcc ctc atg att ctc ctg att cac 144  
 Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His  
 35 40 45  
 tgg gac cac cgg ttc cac acg ccc atg tac ttc ctc ctg agc caa ctt 192  
 Trp Asp His Arg Phe His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu  
 50 55 60  
 tcc ctc atg gac gtg atg ctg gtt tcc acc act gtg ccc aaa atg gcg 240  
 Ser Leu Met Asp Val Met Leu Val Ser Thr Thr Val Pro Lys Met Ala  
 65 70 75 80  
 gct gac tac ttg acc gga agt aag gcc atc tcc cgc gct ggc tgt ggt 288  
 Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly  
 85 90 95  
 gcg cag atc ttc ttc ctc ccc aca ctg ggt ggt gga gag tgc ttc ctc 336  
 Ala Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu  
 100 105 110  
 tta gca gcc atg gcc tat gac cgc tat gcg gct gtc tgc cac cca ctc 384  
 Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu  
 115 120 125

cga tat ccc act ctc atg agc tgg cag ctg tgc ctg agg atg aac ctg 432  
 Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Asn Leu  
 130 135 140  
 tcg tgt tgg ctc ctg ggt gca gct gac ggg ctc ctg cag gct gtt gct 480  
 Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala  
 145 150 155 160  
 acc ctg agc ttc cca tat tgc ggt gca cac gag atc gat cac ttc ttc 528  
 Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe  
 165 170 175  
 tgc gag acc ccc gtg ctg gtg cgt ttg gct tgt gct gac act tca gtc 576  
 Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val  
 180 185 190  
 ttc gaa aac gcc atg tac atc tgc tgt gtg tta atg ctc ctg gtc ccc 624  
 Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro  
 195 200 205  
 ttt tcc ctc atc ctg tcc tcc tat ggt ctc atc ctc gct gct gtt ctg 672  
 Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu  
 210 215 220  
 cac atg cgc tct aca gaa gcc cgc aag aag gcc ttt gcc acc tgc tct 720  
 His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser  
 225 230 235 240  
 tca cat gtg gct gtg gtg gga ctc ttt tat gga gct gcc att ttt acc 768  
 Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr  
 245 250 255  
 tat atg aga ccc aaa tcc cac agg tcc act aac cac gac aag gtt gtg 816  
 Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val  
 260 265 270  
 tca gcc ttc tat act atg ttc acc cct tta cta aac ccc ctc atc tac 864  
 Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr  
 275 280 285  
 agt gtg  
 Ser 870

<210> 312  
 <211> 289  
 <212> PRT  
 <213> Homo Sapiens

<400> 312

Met Glu Asn Gly Ser Tyr Thr Ser Tyr Phe Ile Leu Leu Gly Leu Phe  
 1 5 10 15

Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Val Leu Ser Ile  
 20 25 30

Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His

35                                      40                                      45  
 Trp Asp His Arg Phe His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu  
     50                                      55                                      60  
 Ser Leu Met Asp Val Met Leu Val Ser Thr Thr Val Pro Lys Met Ala  
     65                                      70                                      75                                      80  
 Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly  
                                     85                                      90                                      95  
 Ala Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu  
                                     100                                      105                                      110  
 Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu  
                                     115                                      120                                      125  
 Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Asn Leu  
                                     130                                      135                                      140  
 Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala  
     145                                      150                                      155                                      160  
 Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe  
                                     165                                      170                                      175  
 Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val  
                                     180                                      185                                      190  
 Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro  
                                     195                                      200                                      205  
 Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu  
                                     210                                      215                                      220  
 His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser  
     225                                      230                                      235                                      240  
 Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr  
                                     245                                      250                                      255  
 Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val  
                                     260                                      265                                      270  
 Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr  
                                     275                                      280                                      285

Ser

<210> 313  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(954)  
 <223>

<400> 313  
 atg gaa tgg gaa aac cac acc att ctg gtg gaa ttt ttt ctg aag gga 48  
 Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15  
 ctt tct ggt cac cca aga ctt gag tta ctc ttt ttt gtg ctc atc ttc 96  
 Leu Ser Gly His Pro Arg Leu Glu Leu Phe Phe Val Leu Ile Phe  
 20 25 30  
 ata atg tat gtg gtc atc ctt ctg ggg aat ggt act ctc att tta atc 144  
 Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45  
 agc atc ttg gac cct cac ctt cac acc cct atg tac ttc ttt ctg ggg 192  
 Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tcc ttc ttg gac atc tgc tac acc acc acc tct att ccc tcc 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80  
 acg cta gtg agc ttc ctt tca gaa aga aag acc att tcc ctt tct ggc 288  
 Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ctc ggc ttg gcc atg ggg aca aca gag tgt 336  
 Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 gtg ctt ctg ggc atg atg gcc ttt gac cgc tat gtg gct atc tgc aac 384  
 Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cct ctg aga tat ccc atc atc atg agt aag gat gcc tat gta ccc atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
 130 135 140  
 gca gct ggg tcc tgg atc ata gga gct gtc aat tct gca gta caa tca 480  
 Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Ser  
 145 150 155 160  
 gtg ttt gtg gta caa ttg cct ttc tgc agg aat aac atc atc aat cat 528  
 Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
 165 170 175

ttc acc tgt gaa att ctg gct gtc atg aaa ctg gcc tgt gct gac atc 576  
 Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190

tca gac aat gag ttc atc atg ctt gtg gcc aca aca ttg ttc ata ttg 624  
 Ser Asp Asn Glu Phe Ile Met Leu Val Ala Thr Thr Leu Phe Ile Leu  
 195 200 205

aca cct ttg tta tta atc att gtc tct tac acg tta atc att gtg agc 672  
 Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Val Ser  
 210 215 220

atc ttc aaa att agc tct tcc gag ggg aga agc aaa gct tcc tct acc 720  
 Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Ala Ser Ser Thr  
 225 230 235 240

tgt tca gcc cat ctg act gtg gtc ata ata ttc tat ggg acc atc ctc 768  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255

ttc atg tac atg aag ccc aag tct aaa gag aca ctt aat tcg gat gac 816  
 Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

ttg gat gct acc gac aaa att ata tcc atg ttc tat ggg gtg atg act 864  
 Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

ccc atg atg aat cct tta atc tac agt ctt aga aac aag gat gtg aaa 912  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gag gca gta aaa cac cta ctg aac aga agg ttc ttt agc aag tga 957  
 Glu Ala Val Lys His Leu Leu Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

<210> 314  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 314

Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15

Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60



Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110

Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
 130 135 140

Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Ser  
 145 150 155 160

Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
 165 170 175

Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190

Ser Asp Asn Glu Phe Ile Met Leu Val Ala Thr Thr Leu Phe Ile Leu  
 195 200 205

Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Val Ser  
 210 215 220

Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Ala Ser Ser Thr  
 225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255

Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Glu Ala Val Lys His Leu Leu Asn Arg Arg Phe Phe Ser Lys

305

310

315

<210> 315  
 <211> 954  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(951)  
 <223>

<400> 315  
 atg ggt gag att aac cag aca ctt gtg tca gaa ttt ctt ctt ctg ggt 48  
 Met Gly Glu Ile Asn Gln Thr Leu Val Ser Glu Phe Leu Leu Leu Gly  
 1 5 10 15  
 ctt tct gga tac cca aag att gag att gtt tac ttt gct ctc att cta 96  
 Leu Ser Gly Tyr Pro Lys Ile Glu Ile Val Tyr Phe Ala Leu Ile Leu  
 20 25 30  
 gtt atg tac cta gtg att cta att ggc aat ggt gtt cta atc ata gcc 144  
 Val Met Tyr Leu Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala  
 35 40 45  
 agc atc ttt gat tct cat ttt cac aca cca atg tac ttc ttc ctg ggc 192  
 Ser Ile Phe Asp Ser His Phe His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tct ttc ctg gat atc tgc tat aca tcc tcc tct gtt ccc tca 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Val Pro Ser  
 65 70 75 80  
 aca ttg gtg agc tta atc tca aag aaa aga aac att tcc ttc tct gga 288  
 Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ttt ggg ttt gca atg ggg tca aca gaa tgt 336  
 Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys  
 100 105 110  
 ctg ctt ctt ggc atg atg gca ttt gat cgt tat gtg gcc atc tgc aac 384  
 Leu Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cca ctg aga tac ccc atc atc ctg agc aag gtg gcg tat gta ttg atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Leu Ser Lys Val Ala Tyr Val Leu Met  
 130 135 140  
 gct tct gtg tcc tgg ctg tcc ggt gga ata aat tca gct gtg caa aca 480  
 Ala Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 tta ctt gcc atg aga ctg cct ttc tgt ggg aat aat att atc aat cat 528  
 Leu Leu Ala Met Arg Leu Pro Phe Cys Gly Asn Asn Ile Ile Asn His  
 165 170 175  
 ttc gca tgt gaa ata tta gct gtc ctc aag ctg gcc tgt gct gat ata 576  
 Phe Ala Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp Ile

180	185	190	
tcc ctc aat att atc acc atg	gtg ata tca aat atg gcc ttc ctg gtt		624
Ser Leu Asn Ile Ile Thr Met	Val Ile Ser Asn Met Ala Phe Leu Val		
195	200	205	
ctt cca ctg atg gtc att ttt ttc tcc tat atg ttc atc ctc tac acc			672
Leu Pro Leu Met Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr			
210	215	220	
atc ttg caa atg aat tca gcc aca gga aga cgc aag gca ttt tcc acg			720
Ile Leu Gln Met Asn Ser Ala Thr Gly Arg Arg Lys Ala Phe Ser Thr			
225	230	235	240
tgc tca gct cac ctg act gtg gtg atc ata ttt tac ggt acc atc ttc			768
Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe			
245	250	255	
ttt atg tat gcg aaa ccg aag tct caa gac ctg att ggg gaa gaa aaa			816
Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Ile Gly Glu Glu Lys			
260	265	270	
ttg caa gca tta gac aag ctc att tct ctg ttt tat ggg gta gtg aca			864
Leu Gln Ala Leu Asp Lys Leu Ile Ser Leu Phe Tyr Gly Val Val Thr			
275	280	285	
ccc atg ctg aat cct ata ctc tat agc ttg aga aat aag gat gta aaa			912
Pro Met Leu Asn Pro Ile Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys			
290	295	300	
gct gct gta aaa tat ttg ctg aac aaa aaa cca att cac taa			954
Ala Ala Val Lys Tyr Leu Leu Asn Lys Lys Pro Ile His			
305	310	315	
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<213> Homo Sapiens			
<400> 316			
Met Gly Glu Ile Asn Gln Thr Leu Val Ser Glu Phe Leu Leu Leu Gly			
1	5	10	15
Leu Ser Gly Tyr Pro Lys Ile Glu Ile Val Tyr Phe Ala Leu Ile Leu			
20	25	30	
Val Met Tyr Leu Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala			
35	40	45	
Ser Ile Phe Asp Ser His Phe His Thr Pro Met Tyr Phe Phe Leu Gly			
50	55	60	
Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Val Pro Ser			
65	70	75	80

Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly  
85 90 95

Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys  
100 105 110

Leu Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125

Pro Leu Arg Tyr Pro Ile Ile Leu Ser Lys Val Ala Tyr Val Leu Met  
130 135 140

Ala Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Ala Val Gln Thr  
145 150 155 160

Leu Leu Ala Met Arg Leu Pro Phe Cys Gly Asn Asn Ile Ile Asn His  
165 170 175

Phe Ala Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp Ile  
180 185 190

Ser Leu Asn Ile Ile Thr Met Val Ile Ser Asn Met Ala Phe Leu Val  
195 200 205

Leu Pro Leu Met Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr  
210 215 220

Ile Leu Gln Met Asn Ser Ala Thr Gly Arg Arg Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
245 250 255

Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Ile Gly Glu Glu Lys  
260 265 270

Leu Gln Ala Leu Asp Lys Leu Ile Ser Leu Phe Tyr Gly Val Val Thr  
275 280 285

Pro Met Leu Asn Pro Ile Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys  
290 295 300

Ala Ala Val Lys Tyr Leu Leu Asn Lys Lys Pro Ile His  
305 310 315

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 <222> (1) .. (954)  
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 1 5 10 15  
 ctt tct ggt cac cca aga ctt gag tta ctc ttt ttt gtg ctc atc ttc 96  
 Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30  
 ata atg tat gtg gtc atc ctt ctg ggg aat ggt act ctc att tta atc 144  
 Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45  
 agc atc ttg gac cct cac ctt cac acc cct atg tac ttc ttt ctg ggg 192  
 Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tcc ttc ttg gac atc tgc tac acc acc acc tct att ccc tcc 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80  
 acg cta gtg agc ttc ctt tca gaa aga aag acc att tcc ctt tct ggc 288  
 Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ctc agc ttg gcc atg ggg aca aca gag tgt 336  
 Cys Ala Val Gln Met Phe Leu Ser Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 gtg ctt ctg ggc gtg atg gcc ttt gac cgc tat gtg gct atc tgc aac 384  
 Val Leu Leu Gly Val Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cct ctg aga tat ccc atc atc atg agt aag gat gcc tat gta ccc atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
 130 135 140  
 gca gct ggg tcc tgg atc ata gga gct gtc aat tct gca gta caa aca 480  
 Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 gtg ttt gtg gta caa ttg cct ttc tgc agg aat aac atc atc aat cat 528  
 Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
 165 170 175  
 ttc acc tgt gaa att cta gct gtc atg aaa ctg gcc tgt gct gac atc 576  
 Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 tca ggc aat gag ttc atc ctg ctt gtg acc aca aca ttg ttc cta ttg 624

Ser Gly Asn Glu Phe Ile Leu Leu Val Thr Thr Thr Leu Phe Leu Leu  
 195 200 205

aca cct ttg tta tta att att gtc tct tac acg tta atc att ttg agc 672  
 Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Leu Ser  
 210 215 220

atc ttc aaa att agc tct tct gag ggg aga agc aaa cct tcc tct acc 720  
 Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Pro Ser Ser Thr  
 225 230 235 240

tgc tca gct cgt ctg act gtg gtg ata aca ttc tgt ggg acc atc ttc 768  
 Cys Ser Ala Arg Leu Thr Val Val Ile Thr Phe Cys Gly Thr Ile Phe  
 245 250 255

ctc atg tac atg aag ccc aag tct caa gag aca ctt aat tca gat gac 816  
 Leu Met Tyr Met Lys Pro Lys Ser Gln Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

ttg gat gcc act gac aaa ctt ata ttc ata ttc tac agg gtg atg act 864  
 Leu Asp Ala Thr Asp Lys Leu Ile Phe Ile Phe Tyr Arg Val Met Thr  
 275 280 285

ccc atg atg aat cct tta atc tac agt ctt aga aac aag gat gtg aag 912  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gag gca gta aaa cac cta ctg aga aga aaa aat ttt aac aag taa 957  
 Glu Ala Val Lys His Leu Leu Arg Arg Lys Asn Phe Asn Lys  
 305 310 315

<210> 318  
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 <212> PRT  
 <213> Homo Sapiens

<400> 318

Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
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Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Leu Ser Leu Ala Met Gly Thr Thr Glu Cys  
                   100                                  105                                  110

Val Leu Leu Gly Val Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
                   115                                  120                                  125

Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
                   130                                  135                                  140

Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Thr  
                   145                                  150                                  155                                  160

Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
                                   165                                  170                                  175

Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
                   180                                  185                                  190

Ser Gly Asn Glu Phe Ile Leu Leu Val Thr Thr Thr Leu Phe Leu Leu  
                   195                                  200                                  205

Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Leu Ser  
                   210                                  215                                  220

Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Pro Ser Ser Thr  
                   225                                  230                                  235                                  240

Cys Ser Ala Arg Leu Thr Val Val Ile Thr Phe Cys Gly Thr Ile Phe  
                                   245                                  250                                  255

Leu Met Tyr Met Lys Pro Lys Ser Gln Glu Thr Leu Asn Ser Asp Asp  
                   260                                  265                                  270

Leu Asp Ala Thr Asp Lys Leu Ile Phe Ile Phe Tyr Arg Val Met Thr  
                   275                                  280                                  285

Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
                   290                                  295                                  300

Glu Ala Val Lys His Leu Leu Arg Arg Lys Asn Phe Asn Lys  
                   305                                  310                                  315

<210> 319  
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 <212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (960)

&lt;223&gt;

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<400> 319
atg gaa agg acc aac gat tcc acg tcg aca gaa ttt ttc ctg gta ggg      48
Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly
1                               5                               10                               15

ctt tct gcc cac cca aag ctc cag aca gtt ttc ttc gtt cta att ttg      96
Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu
20                               25                               30

tgg atg tac ctg atg atc ctg ctt gga aat gga gtc ctt atc tca gtt      144
Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val
35                               40                               45

atc atc ttt gat tct cac ctg cac acc ccc atg tat ttc ttc ctc tgt      192
Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys
50                               55                               60

aat ctt tcc ttc ctc gac gtt tgc tac aca agt tcc tct gtc cca cta      240
Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu
65                               70                               75                               80

att ctt gcc agc ttt ctg gca gta aag aaa aag gtt tcc ttc tct ggg      288
Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly
85                               90                               95

tgt atg gtg caa atg ttt att tct ttt gcc atg ggg gcc acg gag tgc      336
Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys
100                              105                              110

atg atc tta ggc acg atg gca ctg gac cgc tat gtg gcc atc tgc tac      384
Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr
115                              120                              125

cca ctg aga tac cct gtc atc atg agc aag ggt gcc tat gtg gcc atg      432
Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met
130                              135                              140

gca gct ggg tcc tgg gtc act ggg ctt gtg gac tca gta gtg cag aca      480
Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr
145                              150                              155                              160

gct ttt gca atg cag tta cca ttc tgt gct aat aat gtc att aaa cat      528
Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His
165                              170                              175

ttt gtc tgt gaa att ctg gct atc ttg aaa ctg gcc tgt gct gat att      576
Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile
180                              185                              190

tca atc aat gtg att agt atg aca ggg tcg aat ctg att gtt ctg gtt      624
Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val
195                              200                              205

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att cca ttg tta gta att tcc atc tct tac ata ttt att gtt gcc act 672  
 Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr  
 210 215 220

att ctg agg att cct tcc act gaa gga aaa cat aag gcc ttc tcc acc 720  
 Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240

tgc tca gcc cac ctg aca gtg gtg att ata ttc tat gga acc atc ttc 768  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255

ttc atg tac gca aag cct gag tct aaa gcc tct gtt gat tca ggt aat 816  
 Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn  
 260 265 270

gaa gac atc att gag gcc ctc atc tcc ctt ttc tat gga gtg atg act 864  
 Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr  
 275 280 285

ccc atg ctt aat cct ctc atc tat agt ctg cga aac aag gat gta aag 912  
 Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gct gct gtc aaa aac ata ctg tgt agg aaa aac ttt tct gat gga aaa 960  
 Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
 305 310 315 320

tga 963

<210> 320  
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 <212> PRT  
 <213> Homo Sapiens  
 <400> 320

Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly  
 1 5 10 15

Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu  
 20 25 30

Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val 6  
 35 40 45

Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
 50 55 60

Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu  
 65 70 75 80

Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly  
 85 90 95

Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys  
 100 105 110

Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr  
 115 120 125

Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met  
 130 135 140

Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr  
 145 150 155 160

Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His  
 165 170 175

Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile  
 180 185 190

Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val  
 195 200 205

Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr  
 210 215 220

Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255

Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn  
 260 265 270

Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr  
 275 280 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
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 <212> DNA  
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 <222> (1) .. (957)  
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 1 5 10 15  
 ttt ttt cac tac ccc aaa gtt cag gtc atc ata ttt gcg gtg tgc ttg 96  
 Phe Phe His Tyr Pro Lys Val Gln Val Ile Ile Phe Ala Val Cys Leu  
 20 25 30  
 ctg atg tac ctg atc acc ttg ctg ggc aac att ttt ctg atc tcc atc 144  
 Leu Met Tyr Leu Ile Thr Leu Leu Gly Asn Ile Phe Leu Ile Ser Ile  
 35 40 45  
 acc att cta gat tcc cac ctg cac acc cct atg tac ctc ttc ctc agc 192  
 Thr Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser  
 50 55 60  
 aat ctc tcc ttt ctg gac atc tgg tac tcc tct tct gcc ctc tct cca 240  
 Asn Leu Ser Phe Leu Asp Ile Trp Tyr Ser Ser Ser Ala Leu Ser Pro  
 65 70 75 80  
 atg ctg gca aac ttt gtt tca ggg aga aac act att tca ttc tca ggg 288  
 Met Leu Ala Asn Phe Val Ser Gly Arg Asn Thr Ile Ser Phe Ser Gly  
 85 90 95  
 tgc gcc act cag atg tac ctc tcc ctt gcc atg ggc tcc act gag tgt 336  
 Cys Ala Thr Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys  
 100 105 110  
 gtg ctc ctg ccc atg atg gca tat gac cgg tat gtg gcc atc tgc aac 384  
 Val Leu Leu Pro Met Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 ccc ctg aga tac cct gtc atc atg aat agg aga acc tgt gtg cag att 432  
 Pro Leu Arg Tyr Pro Val Ile Met Asn Arg Arg Thr Cys Val Gln Ile  
 130 135 140  
 gca gct ggc tcc tgg atg aca ggc tgt ctc act gcc atg gtg gaa atg 480  
 Ala Ala Gly Ser Trp Met Thr Gly Cys Leu Thr Ala Met Val Glu Met  
 145 150 155 160  
 atg tct gtg ctg cca ctg tct ctc tgt ggt aat agc atc atc aat cat 528  
 Met Ser Val Leu Pro Leu Ser Leu Cys Gly Asn Ser Ile Ile Asn His  
 165 170 175  
 ttc act tgt gaa att ctg gcc atc ttg aaa ttg gtt tgt gtg gac acc 576  
 Phe Thr Cys Glu Ile Leu Ala Ile Leu Lys Leu Val Cys Val Asp Thr  
 180 185 190  
 tcc ctg gtg cag tta atc atg ctg gtg atc agt gta ctt ctt ctc ccc 624  
 Ser Leu Val Gln Leu Ile Met Leu Val Ile Ser Val Leu Leu Leu Pro  
 195 200 205  
 atg cca atg cta ctc att tgt atc tct tat gca ttt atc ctc gcc agt 672

Met Pro Met Leu Leu Ile Cys Ile Ser Tyr Ala Phe Ile Leu Ala Ser  
 210 215 220

atc ctg aga atc agc tca gtg gaa ggt cga agt aaa gcc ttt tca acg 720  
 Ile Leu Arg Ile Ser Val Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

tgc aca gcc cac ctg atg gtg gta gtt ttg ttc tat ggg acg gct ctc 768  
 Cys Thr Ala His Leu Met Val Val Val Leu Phe Tyr Gly Thr Ala Leu  
 245 250 255

tcc atg cac ctg aag ccc tcc gct gta gat tca cag gaa ata gac aaa 816  
 Ser Met His Leu Lys Pro Ser Ala Val Asp Ser Gln Glu Ile Asp Lys  
 260 265 270

ttt atg gct ttg gtg tat gcc gga caa acc ccc atg ttg aat cct atc 864  
 Phe Met Ala Leu Val Tyr Ala Gly Gln Thr Pro Met Leu Asn Pro Ile  
 275 280 285

atc tat agt cta cgg aac aaa gag gtg aaa gtg gcc ttg aaa aaa ttg 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Val Ala Leu Lys Lys Leu  
 290 295 300

ctg att aga aat cat ttt aat act gcc ttc att tcc atc ctc aaa taa 960  
 Leu Ile Arg Asn His Phe Asn Thr Ala Phe Ile Ser Ile Leu Lys  
 305 310 315

<210> 322  
 <211> 319  
 <212> PRT  
 <213> Homo Sapiens

<400> 322

Met Phe Pro Ala Asn Trp Thr Ser Val Lys Val Phe Phe Phe Leu Gly  
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Phe Phe His Tyr Pro Lys Val Gln Val Ile Ile Phe Ala Val Cys Leu  
 20 25 30

Leu Met Tyr Leu Ile Thr Leu Leu Gly Asn Ile Phe Leu Ile Ser Ile  
 35 40 45

Thr Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Trp Tyr Ser Ser Ser Ala Leu Ser Pro  
 65 70 75 80

Met Leu Ala Asn Phe Val Ser Gly Arg Asn Thr Ile Ser Phe Ser Gly  
 85 90 95

Cys Ala Thr Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys  
 100 105 110

Val Leu Leu Pro Met Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Arg Tyr Pro Val Ile Met Asn Arg Arg Thr Cys Val Gln Ile  
 130 135 140  
 Ala Ala Gly Ser Trp Met Thr Gly Cys Leu Thr Ala Met Val Glu Met  
 145 150 155 160  
 Met Ser Val Leu Pro Leu Ser Leu Cys Gly Asn Ser Ile Ile Asn His  
 165 170 175  
 Phe Thr Cys Glu Ile Leu Ala Ile Leu Lys Leu Val Cys Val Asp Thr  
 180 185 190  
 Ser Leu Val Gln Leu Ile Met Leu Val Ile Ser Val Leu Leu Leu Pro  
 195 200 205  
 Met Pro Met Leu Leu Ile Cys Ile Ser Tyr Ala Phe Ile Leu Ala Ser  
 210 215 220  
 Ile Leu Arg Ile Ser Ser Val Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Thr Ala His Leu Met Val Val Val Leu Phe Tyr Gly Thr Ala Leu  
 245 250 255  
 Ser Met His Leu Lys Pro Ser Ala Val Asp Ser Gln Glu Ile Asp Lys  
 260 265 270  
 Phe Met Ala Leu Val Tyr Ala Gly Gln Thr Pro Met Leu Asn Pro Ile  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Val Ala Leu Lys Lys Leu  
 290 295 300  
 Leu Ile Arg Asn His Phe Asn Thr Ala Phe Ile Ser Ile Leu Lys  
 305 310 315

<210> 323  
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<220>  
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&lt;222&gt; (1) .. (930)

&lt;223&gt;

&lt;400&gt; 323

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Asn Tyr Asn Gln Ser Ser Thr Asp Phe Ile Leu Leu Gly Phe Phe Pro	
1 5 10 15	
cca tca aga att ggc ctt ttc ctc ttc atc ctc att gtt ttc att ttc	96
Pro Ser Arg Ile Gly Leu Phe Leu Phe Ile Leu Ile Val Phe Ile Phe	
20 25 30	
cta atg gct cta att gga aac cta tcc atg att ctt ctc atc ttc ttg	144
Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile Phe Leu	
35 40 45	
gac acc cat ctc cac aca ccc atg tat ttc cta ctt agt cag ctc tcc	192
Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser	
50 55 60	
ctc att gac cta aat tac atc tcc acc att gtt cct aag atg gca tct	240
Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met Ala Ser	
65 70 75 80	
gat ttt ctg tct ggt aac aag tct atc tcc ttc act ggg tgt ggg att	288
Asp Phe Leu Ser Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys Gly Ile	
85 90 95	
cag agt ttc ttc ttc tcg gca tta gga ggt gca gaa gca cta ctt ttg	336
Gln Ser Phe Phe Phe Ser Ala Leu Gly Gly Ala Glu Ala Leu Leu Leu	
100 105 110	
gca tct atg gcc tat gat cgt tac att gct att tgc ttt cct ctt cac	384
Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro Leu His	
115 120 125	
tat ccc atc cgc atg agc aaa aga atg tgt gtg ctg atg ata aca ggg	432
Tyr Pro Ile Arg Met Ser Lys Arg Met Cys Val Leu Met Ile Thr Gly	
130 135 140	
tct tgg atc ata ggc tcg atc aat gct tgt gct cac act gta tat gta	480
Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val Tyr Val	
145 150 155 160	
ctc cat att cct tat tgc caa tcc agg gcc atc aat cat ttc ttc tgt	528
Leu His Ile Pro Tyr Cys Gln Ser Arg Ala Ile Asn His Phe Phe Cys	
165 170 175	
gat gtc cca gca atg gtg act ctg gcc tgc atg gac acc tgg gtc tat	576
Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp Val Tyr	
180 185 190	
gag ggc aca gtg ttt ttg agc acc acc atc ttt ctc gtg ttt ccc ttc	624
Glu Gly Thr Val Phe Leu Ser Thr Thr Ile Phe Leu Val Phe Pro Phe	
195 200 205	
att gct att tca tgt tcc tat ggc egg gtt ctc ctt gct gtc tac cac	672
Ile Ala Ile Ser Cys Ser Tyr Gly Arg Val Leu Leu Ala Val Tyr His	
210 215 220	

atg aaa tct gca gaa ggg agg aag aaa gcc tac ctg acc tgc agc acc 720  
 Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys Ser Thr  
 225 230 235 240

cac ctc act gta gta act ttc tac tat gca cct ttt gtc tac act tat 768  
 His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr Thr Tyr  
 245 250 255

cta cgt cca aga tcc ctg cga tct cca aca gag gac aag gtt ctg gct 816  
 Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val Leu Ala  
 260 265 270

gtc ttc tac acc atc ctc acc cca atg ctc aac ccc atc atc tat agc 864  
 Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285

ctg agg aac aag gag gtg atg ggg gcc ctg aca cga gtg agt cag aga 912  
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<213> Homo Sapiens

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Pro Ser Arg Ile Gly Leu Phe Leu Phe Ile Leu Ile Val Phe Ile Phe  
 20 25 30

Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile Phe Leu  
 35 40 45

Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser  
 50 55 60

Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met Ala Ser  
 65 70 75 80

Asp Phe Leu Ser Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys Gly Ile  
 85 90 95

Gln Ser Phe Phe Phe Ser Ala Leu Gly Gly Ala Glu Ala Leu Leu Leu  
 100 105 110

Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro Leu His

115                                      120                                      125  
 Tyr Pro Ile Arg Met Ser Lys Arg Met Cys Val Leu Met Ile Thr Gly  
 130                                      135                                      140  
 Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val Tyr Val  
 145                                      150                                      155                                      160  
 Leu His Ile Pro Tyr Cys Gln Ser Arg Ala Ile Asn His Phe Phe Cys  
 165                                      170                                      175  
 Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp Val Tyr  
 180                                      185                                      190  
 Glu Gly Thr Val Phe Leu Ser Thr Thr Ile Phe Leu Val Phe Pro Phe  
 195                                      200                                      205  
 Ile Ala Ile Ser Cys Ser Tyr Gly Arg Val Leu Leu Ala Val Tyr His  
 210                                      215                                      220  
 Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys Ser Thr  
 225                                      230                                      235                                      240  
 His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr Thr Tyr  
 245                                      250                                      255  
 Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val Leu Ala  
 260                                      265                                      270  
 Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275                                      280                                      285  
 Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser Gln Arg  
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 Ile Cys Ser Val Lys Met  
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1 5 10 15		
ttc tca gac cac cct cgt ctg gag gct gtt ctc ttt gta ttt gtc ctt		96
Phe Ser Asp His Pro Arg Leu Glu Ala Val Leu Phe Val Phe Val Leu		
20 25 30		
ttc ttc tac ctc ctg acc ctt gtg gga aac ttc acc ata atc atc atc		144
Phe Phe Tyr Leu Leu Thr Leu Val Gly Asn Phe Thr Ile Ile Ile Ile		
35 40 45		
tca tat ctg gat ccc cct ctt cat acc cca atg tac ttt ttt ctc agc		192
Ser Tyr Leu Asp Pro Pro Leu His Thr Pro Met Tyr Phe Phe Leu Ser		
50 55 60		
aac ctc tct tta ctg gac atc tgc ttc act act agc ctt gct cct cag		240
Asn Leu Ser Leu Leu Asp Ile Cys Phe Thr Thr Ser Leu Ala Pro Gln		
65 70 75 80		
acc tta gtt aac ttg caa aga cca aag aag acg atc act tac ggt ggt		288
Thr Leu Val Asn Leu Gln Arg Pro Lys Lys Thr Ile Thr Tyr Gly Gly		
85 90 95		
tgt gtg gcg caa ctc tat att tct ctg gca ctg ggc tcc act gaa tgt		336
Cys Val Ala Gln Leu Tyr Ile Ser Leu Ala Leu Gly Ser Thr Glu Cys		
100 105 110		
atc ctc ttg gct gac atg gcc ttg gat cgg tac att gct gtc tgc aaa		384
Ile Leu Leu Ala Asp Met Ala Leu Asp Arg Tyr Ile Ala Val Cys Lys		
115 120 125		
ccc ctc cac tat gta gtc atc atg aac cca cgg ctt tgc caa cag ctg		432
Pro Leu His Tyr Val Val Ile Met Asn Pro Arg Leu Cys Gln Gln Leu		
130 135 140		
gca tct atc tcc tgg ctc agt ggt ttg gct agt tcc cta atc cat gca		480
Ala Ser Ile Ser Trp Leu Ser Gly Leu Ala Ser Ser Leu Ile His Ala		
145 150 155 160		
act ttt acc ttg caa ttg cct ctc tgt ggc aac cat agg ctg gac cat		528
Thr Phe Thr Leu Gln Leu Pro Leu Cys Gly Asn His Arg Leu Asp His		
165 170 175		
ttt att tgc gaa gta cca gct ctt ctc aag ttg gct tgt gtg gac acc		576
Phe Ile Cys Glu Val Pro Ala Leu Leu Lys Leu Ala Cys Val Asp Thr		
180 185 190		
act gtc aat gaa ttg gtg ctt ttt gtt gtt agt gtt ctg ttt gtt gtc		624
Thr Val Asn Glu Leu Val Leu Phe Val Val Ser Val Leu Phe Val Val		
195 200 205		
att cca cca gca ctc atc tcc atc tcc tat ggc ttc ata act caa gct		672
Ile Pro Pro Ala Leu Ile Ser Ile Ser Tyr Gly Phe Ile Thr Gln Ala		
210 215 220		
gtg ctg agg atc aaa tca gta gag gca agg cat aaa gcc ttc agc acc		720
Val Leu Arg Ile Lys Ser Val Glu Ala Arg His Lys Ala Phe Ser Thr		
225 230 235 240		

tgc	tcc	tcc	cac	ctt	aca	gtg	gtg	att	ata	ttc	tat	ggc	acc	ata	atc	768
Cys	Ser	Ser	His	Leu	Thr	Val	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Ile	Ile	
				245					250					255		

tac gtg tac ctg caa cct agt gac agc tat gcc cag gac caa ggg aag 816  
Tyr Val Tyr Leu Gln Pro Ser Asp Ser Tyr Ala Gln Asp Gln Gly Lys  
260 265 270

ttt atc tcc ctc ttc tac acc atg gtg acc ccc act tta aat cct atc 864  
Phe Ile Ser Leu Phe Tyr Thr Met Val Thr Pro Thr Leu Asn Pro Ile  
275 280 285

atc tat act tta agg aac aag gat atg aaa gag gct ctg agg aaa ctt 912  
Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Glu Ala Leu Arg Lys Leu  
290 295 300

ctc tcg gga aaa ttg tga  
Leu Ser Gly Lys Leu  
305

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<210> 326
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<400> 326

Met Gly Leu Gly Asn Glu Ser Ser Leu Met Asp Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asp His Pro Arg Leu Glu Ala Val Leu Phe Val Phe Val Leu  
20 25 30

Phe Phe Tyr Leu Leu Thr Leu Val Gly Asn Phe Thr Ile Ile Ile Ile  
35 40 45

Ser Tyr Leu Asp Pro Pro Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
50 55 60

Asn Leu Ser Leu Leu Asp Ile Cys Phe Thr Thr Ser Leu Ala Pro Gln  
65 70 75 80

Thr Leu Val Asn Leu Gln Arg Pro Lys Lys Thr Ile Thr Tyr Gly Gly  
85 90 95

Cys Val Ala Gln Leu Tyr Ile Ser Leu Ala Leu Gly Ser Thr Glu Cys  
100 105 110

Ile Leu Leu Ala Asp Met Ala Leu Asp Arg Tyr Ile Ala Val Cys Lys  
115 120 125